**Before the**
**Federal Communications Commission**
**Washington, D.C. 20554**

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| In the Matter of | ) | |
| | ) | |
| Use of Portions of Returned 2 GHz | ) | IB Docket No. 05-221 |
| Mobile Satellite Service Frequencies | ) | |

# REPLY COMMENTS OF TMI AND TERRESTAR


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August 15, 2005

## SUMMARY

The record in this proceeding is fully developed and demonstrates that the immediate *pro rata* distribution of the 6.67 MHz each to TMI/TerreStar and ICO best serves the public interest. TMI/TerreStar can put this modest amount of spectrum to use in the near term to provide a stunning array of innovative communications services to American consumers and to inject new competition into the mobile communications market. Its groundbreaking hybrid satellite/terrestrial communications system will provide advanced services for underserved and rural communities and a fully redundant, interoperable and ubiquitous platform for public safety and homeland security applications.

Opening a new processing round would delay the benefits MSS/ATC can provide, thwart the expectations of those who have invested to produce robust, competitive and state-of-the-art MSS services, and force TMI/TerreStar to settle for second-best due to spectrum constraints from the outset. Seeking new applicants would produce no appreciable public interest benefit. The only expressions of interest in this docket are from two satellite providers who have failed to demonstrate a true commitment to launching a 2 GHz MSS service. Inmarsat's chief executive has told investors as recently as August 2005 that Inmarsat would not consider using 2 GHz spectrum until 2013, and even then only if Inmarsat is able to "dream up" the right system and raise the necessary funds. Globalstar has said it would be interested in 2 GHz spectrum only as a "safety valve" in case demand increases for its Big LEO satellite service. These uses would not bolster competition; in fact, the opposite would be the case. As Stanford economist Bruce Owen states in support of these reply comments, "the strength of competition does not depend only on the number of competitors; two strong firms may compete more vigorously than three weaker ones." In this case, two strong 2 GHz MSS/ATC providers also will compete effectively with several other satellite services and, for the first time, with terrestrial wireless carriers as well.

No credible argument has been made in favor of any other use of this 13.34 MHz of spectrum, by either terrestrial wireless carrier interests or any other commenter. There is, in particular, no benefit shown in the record for providing this spectrum to mobile terrestrial carriers, who are about to have access to an unprecedented new allocation of 180 MHz of

spectrum. Reallocating this 13.34 MHz away from MSS would prevent 2 GHz MSS from being able to provide the wide range of benefits described in this proceeding. It also would send a message to operators, the financial community and potential customers that the Commission has lost confidence in the public interest benefits of sustaining a competitive mobile satellite service, which would endanger the industry's future funding and prospects.

The Commission has full legal authority to take this essential step. The Commission is empowered to modify the MSS licensees' authorizations under Section 316 of the Communications Act and its rules and policies; recent court cases have no impact on that authority. The spectrum at issue is not subject to auction. All interested parties have had full and complete opportunities to present their views in hundreds of pages of pleadings in the dockets in which the Commission has considered these issues. Claims that more procedure is somehow needed elevate form over function and are simply interposed to delay the emergence of new competition.

The public interest would be served by permitting TMI/TerreStar to operate a competitive MSS/ATC system that will provide exceptional benefits to the American public. With this small additional assignment of spectrum, the Commission can enable the provision of innovative services with benefits that have not before been possible — to finally put rural communities on an even footing with urban communities; to provide advanced digital services where they are not available from any current provider; and to ensure that the public safety and national security communities have access to sufficient spectrum to launch the types of applications that are being developed to safeguard the homeland. Accordingly, we urge the Commission to move forward promptly to finalize spectrum assignments for 2 GHz MSS licensees so that TMI/TerreStar can provide these benefits.

## TABLE OF CONTENTS


SUMMARY ..... i

TABLE OF CONTENTS ..... iii

I. DISTRIBUTION OF THE REMAINING SPECTRUM TO THE 2 GHz MSS LICENSEES BEST SERVES THE PUBLIC INTEREST. ..... 4

A. The Opening Of A New Processing Round Would Not Serve The Commission's Interest In Fostering a Robust 2 GHz Mobile Satellite Service ..... 4

1. The Professed Interest Of Inmarsat And Globalstar In The 2 GHz MSS Spectrum Is Speculative At Best ..... 5

2. Two Competitors In The 2 GHz MSS Band Would Provide Effective Competition To Other MSS And Terrestrial Wireless Providers. ..... 9

B. The Commission Should Not Reallocate Additional MSS Spectrum To The Terrestrial Wireless Industry ..... 12

1. The Terrestrial Wireless Industry Has No Need For Additional Spectrum. ..... 13

2. The Commission May Not Rely On Estimates Of Terrestrial Auction Revenues In Making Spectrum Allocations. ..... 16

C. The Other Proposed Uses For The MSS Spectrum Would Not Serve The Public Interest. ..... 17

II. THE RECORD DEMONSTRATES THAT THE 2 GHz MSS SPECTRUM AT ISSUE IN THIS DOCKET SHOULD BE DISTRIBUTED PRO RATA AMONG THE 2 GHz MSS LICENSEES. ..... 19

A. Redistributing To The Existing 2 GHz MSS Licensees Would Best Serve The Public Interest. ..... 20

1. Providing Advanced Telecommunications Services to Rural and Other Underserved Communities ..... 20

2. Meeting the Nation's Homeland Security Needs ..... 22

3. Meeting the Nation's Public Safety Needs ..... 24

4. Making Optimal Use of the Spectrum Resource ..... 25

5. Ensuring Competition ..... 26

B. An Effective 2 GHz MSS/ATC System Requires 2 x 10 MHz of Spectrum. ..... 29

III. THE COMMISSION HAS FULL LEGAL AUTHORITY TO DISTRIBUTE RETURNED 2 GHz MSS SPECTRUM AS CONTEMPLATED IN THIS AND ANOTHER PROCEEDING. ..... 30

CONCLUSION ..... 34

**Attachments**

Letter from Deutsche Bank Securities Inc. to Christopher Downie, Exec. VP & CEO, Motient Corp., (Aug. 12, 2005), ..... Exh. 1

Letter from Hon. Conrad R. Burns and Hon. Hillary Rodham Clinton, United States Senate, to Hon. Michael Chertoff, Secretary, Department of Homeland Security (August 4, 2005) ..... Exh. 2

Mark Holmes, *Executive Q&A: Inmarsat CEO Happy with IPO Performance*, Satellite News (Aug. 8, 2005) ..... Exh. 3

Bruce M. Owen, "Economic Issues Related to the Number of Firms Licensed to Use 2 GHz Spectrum for MSS Services" ..... Exh. 4

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**TO: The Commission**

## REPLY COMMENTS OF TMI AND TERRESTAR

The record in this proceeding now is fully developed and that record firmly supports the *pro rata* distribution of the available 2 GHz Mobile Satellite Service ("MSS") spectrum to TMI Communications and Company Limited Partnership and its affiliate, TerreStar Networks Inc. (collectively, "TMI/TerreStar")[1] and ICO Satellite Services G.P. ("ICO").

Given that many comments filed in response to the Commission's Public Notice seek to obfuscate the issues posed by the Commission, it is important to recognize at the outset what is at stake in this proceeding. It is not the entire 40 MHz of spectrum that remains of the 70 MHz originally allocated to MSS — this is not a rulemaking assessing the relative value of the MSS and terrestrial mobile services. It is not the 10.67 MHz of spectrum that the Commission has already announced, in a separate proceeding, should be assigned to TMI/TerreStar and ICO.[2] Rather, the sole issue at stake in this docket is whether 6.67 MHz of spectrum should be

[1] TerreStar is the prospective assignee of TMI's 2 GHz MSS authorization and, pursuant to an agreement with TMI, has contracted with Space Systems/Loral Inc. for a satellite that will operate in this band.

[2] *See* Public Notice, *Commission Invites Comments Concerning Use of Portions of Returned 2 GHz Mobile Satellite Service Frequencies,* FCC 05-133, IB Docket No. 05-220 (rel. June 29, 2005) ("First Redistribution Notice").

provided to each of the two existing 2 GHz MSS/ATC licensees.[3] The principal question to be answered here is whether this spectrum should be provided to the two licensees who will put it to full use in the near term or whether the Commission should issue an invitation to new applicants despite the fact that no *bona fide* applicant has expressed an interest in this spectrum.

The issue of reallocating 13.34 MHz of MSS spectrum to terrestrial use has been posed by the Commission in this proceeding, but no credible argument has been made to justify reallocation. In particular, no purpose would be served by reallocating this 13.34 MHz to terrestrial mobile services, where it simply would be added to the already generous new allocation of 180 MHz of spectrum that is about to be assigned to terrestrial carriers. Reallocating this 13.34 MHz away from MSS would send a message to operators, the financial community, and customers that the Commission has lost confidence in the public interest benefits of sustaining a mobile satellite service. This would come on the heels of the recent funding of TMI/TerreStar, among other MSS companies, and could well end any prospects for creation of a viable hybrid satellite/terrestrial mobile telecommunications system, with its great promise of benefits to rural America, to national and homeland security, and to competition in the mobile services market. As spelled out in the attached letter from Deutsche Bank, which is currently serving as a financial advisor to Motient Corporation, the majority investor in TerreStar, there is now a great deal of investor interest in MSS applications. Deutsche Bank states:

> Based on our role as a financial advisor to Motient and our knowledge of the mobile satellite industry, including the impact of the ancillary terrestrial component on its investment case, as well as the deployment plans of TMI/TerreStar, we believe that there is

[3] *See* Public Notice, *Commission Invites Comments Concerning Use of Portions of Returned 2 GHz Mobile Satellite Service Frequencies*, FCC 05-134, IB Docket No. 05-221 (June 29, 2005) ("Second Redistribution Notice").

> significant investor interest in providing capital for TMI/TerreStar's construction, launch, and operation of its satellite network and build out of its advanced terrestrial wireless network…. We believe that the accessibility to the equity and debt capital markets for TMI/TerreStar will be further enhanced with its access to 2x10 MHz of spectrum at the S band.[4]

Similarly, no credible argument has been made for the Commission to seek new applicants. If the Commission opens a new processing round, the TMI/TerreStar system will be spectrum-constrained from the outset. The promise of the TMI/TerreStar hybrid satellite/terrestrial system will be stymied, as will the promise of a system designed to meet fully the needs of the public safety and homeland security communities and to bring wireless broadband to underserved and rural communities.[5] Spectrum that TMI/TerreStar could use to provide service to the public in only three years will remain idle for as long as eight years, if it ever is put to use. If this relatively small increment of spectrum is provided to TMI/TerreStar, however, TMI/TerreStar can launch, with a total assignment of 2 x 10 MHz of 2 GHz spectrum, a hybrid satellite service that, in conjunction with an ancillary terrestrial component ("ATC"), will provide unprecedented benefits to the American public. Competition will be spirited, not only between TMI/TerreStar and ICO but among other satellite services and terrestrial services

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[4] Letter from Deutsche Bank Securities Inc. to Christopher Downie, Exec. VP & CEO, Motient Corp., (Aug. 12, 2005), attached hereto as Exhibit 1.

[5] As Senators Burns and Clinton recently pointed out to Secretary Chertoff:

> If the FCC assigns the hybrid-system licensees the full 20 MHz of spectrum, these systems will also have the capacity to handle the types of advanced applications that are being developed for use by emergency responders. . . . In addition, we see these hybrid wireless systems playing an important role for millions of rural Americans, because these systems will service as a seamless back-up in situations where the terrestrial network is down because of a natural disaster or terrorist attack.

Letter from Hon. Conrad R. Burns and Hon. Hillary Rodham Clinton, United States Senate, to Hon. Michael Chertoff, Secretary, Department of Homeland Security (Aug. 4, 2005), attached hereto as Exhibit 2.

as well. TerreStar urges, as it did in its comments in this proceeding,[6] that the Commission move quickly to redistribute the remaining 2 GHz MSS spectrum on a *pro rata* basis to each of the existing licensees in the 2 GHz MSS band.

## I. DISTRIBUTION OF THE REMAINING SPECTRUM TO THE 2 GHz MSS LICENSEES BEST SERVES THE PUBLIC INTEREST.

TMI/TerreStar can use the remaining 2 GHz MSS spectrum to provide access to advanced communications services to rural and other underserved communities, support public safety and homeland security needs in previously impossible ways, and add much-needed competition to the mobile communications market. Other MSS licensees, commercial mobile radio service ("CMRS") carriers, a satellite radio provider, low-power wireless firms, and even an amateur radio operator offer alternatives that fall far short of providing these significant public interest benefits.

### A. The Opening Of A New Processing Round Would Not Serve The Commission's Interest In Fostering a Robust 2 GHz Mobile Satellite Service.

If TMI/TerreStar has sufficient spectrum, it can deploy a ubiquitous, reliable and affordable MSS/ATC service. Two existing MSS providers, Inmarsat and Globalstar, have asked the Commission instead to distribute this critical increment of spectrum to another operator following a processing round. There are two problems with this approach, either of which is fatal to it. *First,* it is uncertain whether Inmarsat or Globalstar actually would provide service if granted an assignment of 2 GHz spectrum. In fact, Globalstar, which will compete with TMI/TerreStar's new system with its existing Big LEO authorization, is simply a spoiler seeking to delay competition and deny an essential spectrum resource to its future competitors. *Second,* the public interest would be better served by two 2 GHz MSS/ATC providers with a 2 x

[6] Comments of TMI Communications and Company Limited Partnership and TerreStar Networks Inc., IB Docket No. 05-221 (July 29, 2005) ("TMI/TerreStar Comments").

10 MHz assignment that ensures sufficient capacity to deliver the full benefits of next-generation MSS/ATC services to the public.

### 1. The Professed Interest Of Inmarsat And Globalstar In The 2 GHz MSS Spectrum Is Speculative At Best.

TMI/TerreStar will bring its full complement of S-band spectrum into use by 2008. As the Commission is aware, TMI has submitted timely certifications of compliance with the "begin physical construction" milestone for the TMI/TerreStar satellite. Similarly, ICO has already filed certifications of completion of the first two milestones required under its revised 2 GHz MSS milestone schedule.[7] In contrast, there is considerable evidence suggesting that the two parties asking the Commission to open a new processing round, Inmarsat and Globalstar, are not committed to financing, constructing, and deploying a 2 GHz MSS/ATC system in the near future—if ever.

***Inmarsat***. Recent statements by Inmarsat in media interviews and securities filings directly contradict Inmarsat's assertion to the Commission here that it is "currently developing plans for a global rollout of broadband and multimedia MSS in the 2 GHz band" and indicated that it would do so "by the end of the decade."[8] In an interview published less than two weeks *after* Inmarsat made that assertion, its Chief Executive Officer revealed that Inmarsat would not even consider putting the 2 GHz spectrum to use until 2013, and even then only if it were able to "dream up" the right system and raise necessary funds:

> In the short- to medium-term, [the 2 GHz spectrum] would not make a whole lot of difference. We fully contemplated going with L-band only spectrum and that is what we have planned for … If we were to dream up that next constellation to put it in the sky

[7] *See* Comments of ICO Satellite Services G.P., IB Docket No. 05-221, at 6 (July 29, 2005) ("ICO Comments") (citations omitted).

[8] Comments of Inmarsat Ventures Ltd., IB Docket No. 05-221, at 5-6 (filed July 29, 2005) ("Inmarsat Comments").

> today, by the time it got designed, built and launched into commercial service, you are talking about a minimum of a five- to six-year window. Add a little bit onto that for licensing and potentially fund raising for it, and you are talking between seven to nine years. *So we may be looking beyond an eight- to 10-year horizon for this S-band*.[9]

Mr. Sukawaty's statements are not surprising in light of the public statements that Inmarsat made to investors in securities filings in the United Kingdom earlier this summer. In those filings, Inmarsat stated that "once we deploy our Inmarsat-4 satellite fleet, we do not anticipate the need for material capital expenditure for a new generation of satellites until 2014 at the earliest."[10] In fact, aside from its filings in this and another proceeding seeking comment on distribution of surrendered 2 GHz MSS spectrum, the only step Inmarsat has taken towards "developing" a service in the 2 GHz spectrum is the filing through the U.K. regulator, Ofcom, of applications with the International Telecommunications Union ("ITU") requesting an orbital slot to provide a 2 GHz service.[11] These filings impose no significant obligations on Inmarsat and are no greater proof of Inmarsat's actual intentions than its claims in this proceeding.[12]

Moreover, as ICO and TMI/TerreStar noted in their initial comments, Inmarsat has previously abandoned the opportunity to develop a 2 GHz mobile satellite service years after

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[9] Mark Holmes, *Executive Q&A: Inmarsat CEO Happy with IPO Performance*, Satellite News (Aug. 8, 2005) (emphasis added) ("Sukawaty Interview"). A copy of the interview with Mr. Sukawaty is attached to these reply comments as Exhibit 3.

[10] *See Inmarsat plc Prospectus*, *available at* http://about.inmarsat.com/investor_relations/default.aspx, at 69, 79 (June 1, 2005).

[11] Inmarsat Comments at 5.

[12] *See, e.g.*, Stuart N. Brotman, Communications Law and Practice § 6.02[6] (2004) ("Because [an ITU] filing is valid for nine years, many companies have taken the approach that it is better to file for an orbital position now, even if they do not plan to launch a satellite into that slot in the near future.").

submitting an application for a license.[13] Based on this history and Inmarsat's recent statements, the Commission has ample evidence to doubt that Inmarsat would deploy a 2 GHz MSS/ATC service if granted an authorization following a new processing round.[14] Inmarsat may intend to use this proceeding to delay competition and protect its economic interests, but it certainly does not plan to provide a full-featured hybrid satellite/terrestrial mobile service in the 2 GHz MSS band. Whether or not intended, the further licensing proceeding urged by Inmarsat would thwart the plans of the existing licensees, delay service, impose unnecessary costs which would be passed onto consumers, and would jeopardize creation of a truly unique telecommunications resource for the United States and Canada.[15]

Finally, even if Inmarsat were to eventually deploy a service using the 2 GHz MSS spectrum, it has stated unequivocally that the 2 GHz service would be merely a supplement to its existing service in the L band.[16] Use of the 2 GHz band as "expansion spectrum" would pale in importance compared to the next-generation voice and high-speed data service planned by TMI/TerreStar. In contrast to the basic mobile satellite service provided by Inmarsat, which is much more expensive and difficult to use than traditional terrestrial wireless service, TMI/TerreStar proposes to offer a fully featured, next-generation digital service that will more substantially serve the public interest and be much more accepted by consumers than Inmarsat's basic MSS is today.

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[13] ICO Comments at 13; TMI/TerreStar Comments at 23-24, *citing* Letter from Kelly Cameron, Powell, Goldstein, Frazer & Murphy, LLP, counsel to Inmarsat, to Magalie Roman Salas, Secretary, FCC (Nov. 21, 2000) ("Inmarsat 2 GHz Withdrawal Letter").

[14] *See* Bruce M. Owen, "Economic Issues Related to the Number of Firms Licensed to Use 2 GHz Spectrum for MSS Services," attached hereto as Exhibit 4, at 5-6 ("Owen Statement").

[15] *Id.* at 6.

[16] Reply Comments of Inmarsat Ventures Ltd. IB Docket No. 05-220, at 3 (July 25, 2005). ("Inmarsat . . . stands ready to use the 2 GHz band to deploy an expansion MSS system. . . . ").

***Globalstar***. Like Inmarsat, Globalstar already has MSS spectrum[17] and suggests that it would use the 2 GHz MSS spectrum only as a "safety valve"[18] in the event that demand were to increase for its Big LEO service, rather than deploy the ubiquitous, affordable, consumer-focused service being developed by TMI/TerreStar. Like Inmarsat, Globalstar claims that 2 GHz MSS/ATC systems do not require 2 x 10 MHz of spectrum to be successful. But, in addition to their spectrum grabs in this proceeding, both companies have sought for their own use significantly more than 2 x 10 MHz of 2 GHz spectrum from European regulators, claiming in those filings that even 2 x 10 MHz is insufficient for them to build successful 2 GHz MSS systems.

Also like Inmarsat, Globalstar's history in the 2 GHz band suggests that it may not ultimately make any use of the 2 GHz spectrum. In 2002 filings which ultimately led to cancellation of its 2 GHz MSS license, Globalstar unsuccessfully sought to delay the full deployment of its 2 GHz system until 2009. Globalstar explained that it did "not anticipate a need for additional MSS capacity" and "expect[ed] to achieve lower rates for current subscribers through the [requested] extended milestone schedule."[19] In affirming cancellation of Globalstar's license, the Commission last year stated that it "was not convinced" by Globalstar's "statement of its intent to proceed" with 2 GHz service if granted a waiver of its milestone schedule, and further "question[ed] whether Globalstar in fact intended to construct the entire 2

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[17] Globalstar holds authorizations in the 1.6/2.4 GHz "Big LEO" band.

[18] Comments of Globalstar LLC, IB Docket No. 05-221, at 4 (July 29, 2005) ("Globalstar Comments").

[19] *Application of Globalstar, L.P.,* 18 FCC Rcd. 1249, 1252 ¶7 (2003). Specifically, Globalstar's license was cancelled because its satellite construction contract "did not show adequate intention to proceed with construction, and to bring its satellite system into service within the milestone deadlines specified in the license." *Emergency Application for Review and Request for Stay of Globalstar, L.P.*, 19 FCC Rcd. 11548, 11556-557 ¶ 19 (2004).

GHz MSS system it proposed in its original license application or its 2002 modification application."[20] There is no evidence today that Globalstar is any better equipped today to deploy a 2 GHz service and it certainly would not do so in the near future.[21]

### 2. Two Competitors In The 2 GHz MSS Band Would Provide Effective Competition To Other MSS And Terrestrial Wireless Providers.

The market in which TMI/TerreStar and ICO will compete is a broad one.[22] As Dean Peter Cowhey stated in a declaration attached to TMI/TerreStar's comments, "[t]o consumers, the spectrum band in which an MSS provider operates is irrelevant."[23] Accordingly, Globalstar and Inmarsat are mistaken in their arguments that the only way to foster competition is to allow them into the 2 GHz band.[24] As noted above and in the attached analysis by Dr. Bruce M. Owen, a member of the faculty at Stanford University and a leading economist, this argument fails because markets are defined by the Commission based on whether competitors' services are similar to one another, rather than on whether the competitors use the same frequency band. The Commission, Dr. Owen explains, should not "rel[y] on a rule of thumb or

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[20] 19 FCC Rcd. at 11562 ¶ 31. Globalstar presented radically different facts than those which led the Commission to provide TMI a "conditional waiver" of the first MSS milestone. *See TMI Communications and Company, Limited Partnership and TerreStar Networks Inc. Application for Review and Request for Stay*, 19 FCC Rcd. 12603, 12618 ¶ 40 (2004) ("The TMI/TerreStar contract is a binding, non-contingent contract and does not appear to be an effort to evade or avoid a firm commitment to progressing with satellite construction.").

[21] Globalstar claims that it would be prejudiced by the redistribution of spectrum the Commission is considering in this proceeding. In reality, however, if the Commission reinstated Globalstar's license it would be treated like any other incumbent and would experience no prejudice at all. The Commission need not, and should not, allow Globalstar to make an end-run around the FCC's reinstatement decision by providing it with a new and protracted processing round proceeding.

[22] Supplemental Declaration of Peter Cowhey, Exhibit C to TMI/TerreStar Comments, at 3.

[23] Declaration of Peter Cowhey, Exhibit B to TMI/TerreStar Comments, at 2.

[24] *See* Globalstar Comments at 10-13.

presumption calling for a minimum number of licensees in a given band," particularly because "neither frequency bands nor other regulatory categories are markets."[25]

Rather, the next-generation services of TMI/TerreStar and ICO will operate in a market for mobile voice and high-speed data that does not distinguish between satellite and terrestrial-only services.[26] As the Commission recently noted in approving the Sprint-Nextel merger, a "relevant market includes all products that consumers consider reasonably interchangeable for the same purposes."[27] The Commission considers, as it must, competitive forces throughout the relevant market. The MSS/ATC services of TMI/TerreStar and ICO will compete not only with one another but also with MSS providers in other frequency bands, including Inmarsat and Globalstar, and terrestrial-only PCS, cellular, and SMR services.[28]

Accordingly, Globalstar's and Inmarsat's extensive reliance on the Commission's 2003 suggestion that a "reasonably efficient use of the frequency band" requires at least three licensees is not supported by either economic principles or the competitive realities facing next-generation MSS/ATC providers.[29] If the Commission followed the logic of Globalstar and

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[25] *Id.* at 2.

[26] Owen Statement at 2.

[27] *Applications of Nextel Communications, Inc. and Sprint Corp.,* FCC 05-148, at ¶ 39 (Aug. 8, 2005) ("Sprint-Nextel Order") (internal quotation marks omitted); *accord, Applications of Alltel and Western Wireless*, FCC 05-138, at ¶ 59 (July 19, 2005). The Commission has noted that current satellite systems are not considered substitutable for PCS, cellular and SMR services due to the current higher prices of mobile satellite offerings. *See Sprint-Nextel Order,* ¶ 59; *Alltel-Western Wireless Order,* ¶ 38. This would not be the case, of course, with the planned TMI/TerreStar service, which will compete directly with terrestrial mobile services on price for the business and consumer markets. Owen Statement at 3.

[28] Just as consumers today substitute between the different terrestrial-based services, an MSS/ATC service with sufficient spectrum will be substitutable, from the consumer's perspective, with traditional wireless services. *See, e.g.*, Comments of TMI/TerreStar, Supp. Decl. of Peter Cowhey at 3.

[29] In the *Licensing Reform Order*, the Commission cited the *EchoStar DirecTV Hearing Designation Order* to support its presumption that three MSS operators would be required for

Inmarsat, it would be forced to conclude that Verizon Wireless and T-Mobile were not competitors because they provide service using, in some places, different frequencies and using different air interfaces. Such a conclusion is contrary to logic and law because, as Dr. Owen explains, from the perspective of the consumer, the two companies provide substitutable services.[30] Likewise, it will be irrelevant to consumers deciding which wireless carrier to use that TMI/TerreStar's service is provided from a satellite or that its service uses 2 GHz spectrum. Consumers will purchase the wireless service of the competitor that best meets their needs, regardless of the particular technology or spectrum band used to deliver that service. Even assuming that a third licensee is needed to foster competition, Dr. Owen has explained that there is insufficient spectrum in the 2 GHz MSS band to support a third licensee.[31]

Moreover, the addition of a third 2 GHz licensee may actually diminish, rather than increase, competition.[32] A processing round would leave each provider with access to, at most, only 2 x 6.67 MHz, so no licensee would have the 2 x 10 MHz of spectrum necessary to deploy truly competitive service to the public. The Commission has recently recognized that, as

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competitive reasons. *See Amendment of the Commission's Space Station Licensing Rules*, IB Docket 02-34, 18 FCC Rcd. 10760, 10778 (2003) ("*Licensing Reform Order*"). The analogy to direct broadcast satellite ("DBS") is, however, inapposite to providers of MSS/ATC services. Permitting the EchoStar and DirecTV merger would have resulted in only one supplier of DBS service and would have necessarily offered consumers only two alternatives for multichannel video services in any geographic area – one satellite provider and one cable provider. *See* Application of EchoStar Communications Corporation, General Motors Corporation and Hughes Electronics Corporation*, Hearing Designation Order*, 17 FCC Rcd 20559, 20604-05 ¶¶ 99-103 (2002) ("*EchoStar-DirecTV Hearing Designation Order*"). As noted above, next-generation MSS/ATC services will compete vigorously with satellite *and* terrestrial-based services.

[30] *Id*.

[31] *Id*. at 4-5.

[32] As the Commission has recently recognized in the merger context, spectrum constraints also can increase prices and diminish consumer welfare. If "rival carriers do not have the capacity to add customers (or do not have the capacity to do so without a noticeable deterioration in service quality), then they will not be attractive alternatives for customers and will not restrain the combined carrier's price increase." *Alltel-Western Wireless Order* at ¶113.

Dr. Owen points out, "[t]wo strong firms in some markets may compete more effectively than three weaker ones."[33] In its recent *Sprint-Nextel Merger Order*, the Commission noted that, in its competition analyses, "where we find that a firm is likely to be an effective competitive constraint, it in fact has sufficient bandwidth to enable it to play that role."[34] In sum, as Dr. Owen cautions, "Reliance on a rule of thumb or presumption calling for a minimum number of licensees in a given band would be misguided not only because, as noted above, a band is not necessarily a market, but also because such a presumption might lead to the needless sacrifice of important efficiencies and thus reduce competition and consumer welfare."[35] As stated in TMI/TerreStar's initial comments in this proceeding, three under-resourced licensees would be doomed to providing niche mobile satellite service, if they do not fail outright.[36]

### B. The Commission Should Not Reallocate Additional MSS Spectrum To The Terrestrial Wireless Industry.

In comparison to the many public interest benefits that TMI/TerreStar and ICO will deliver using just 6.67 MHz of additional 2 GHz MSS spectrum, the reallocation of MSS spectrum for use by CMRS and other terrestrial wireless carriers would merely be marginally cumulative of the overhang of more than 180 MHz of unassigned commercial terrestrial spectrum. Terrestrial carriers object to TMI/TerreStar's request in this proceeding for 6.67 MHz of spectrum. That amount, however, pales in comparison to the massive amount of spectrum held by the terrestrial wireless industry. Parties seeking to add to this buildup of available

[33] Owen Statement at 3. Of course, if the additional licensee were Inmarsat, the competitive harm would be particularly great since two emerging competitors, TMI/TerreStar and ICO, would be deprived of access to sufficient spectrum merely to supplement the existing spectrum holdings of Inmarsat. *See* ICO Comments at 12-13.

[34] *Applications of Nextel Communications, Inc. and Sprint Corp.,* FCC 05-148, at ¶ 121 (Aug. 8, 2005) ("Sprint-Nextel Merger Order").

[35] Owen Statement at 4.

[36] TMI/TerreStar Comments at 3.

terrestrial spectrum rely on faulty predictions of auction revenue, even though Congress has forbidden the Commission from relying even on *reliable* revenue predictions in deciding whether an allocation would serve the public interest.[37] The Commission should not "substantially undermine the MSS industry's efforts to serve rural and homeland security interests" by reallocating MSS spectrum to the terrestrial wireless industry.[38]

### 1. The Terrestrial Wireless Industry Has No Need For Additional Spectrum.

In addition to 30 MHz of 2 GHz MSS spectrum reallocated for CMRS use just two years ago, another *150 MHz* of newly allocated spectrum will soon be assigned to terrestrial providers. This 180 MHz of spectrum is all in the "beachfront" allocation below 3 GHz, and virtually all of it will be licensed with flexible service rules ideal for the deployment of advanced wireless services ("AWS"). These new holdings will be in addition to the more than MHz already allocated and assigned to CMRS and other terrestrial wireless providers.

All four parties seeking reallocation of the remaining 2 GHz MSS spectrum to the rapidly consolidating terrestrial wireless industry fail to address this remarkable overhang of unassigned terrestrial spectrum. For example, U.S. Cellular cites to a 2002 statement from the AWS proceeding in which the Commission concluded that CMRS carriers required additional spectrum.[39] Although the Commission then reallocated over 120 MHz of spectrum for use by the CMRS industry, U.S. Cellular asserts, without offering any justification, that "anticipated

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[37] *See* 47 U.S.C. § 309(j)(7)(A), discussed at Section I(B)(2), *infra.*

[38] Comments of the Satellite Industry of America, IB Docket No. 05-221, at 4 (July 29, 2005) ("SIA Comments"). As discussed in Section III of these Reply Comments, the ORBIT Act, as interpreted by the Commission, forbids auction of this type of spectrum.

[39] Comments of U.S. Cellular, IB Docket No. 05-221, at 3 (filed July 29, 2005).

demand" requires yet more spectrum.[40] Similarly, Intel makes no mention of the overhang of terrestrial spectrum, but instead argues that the Commission should reallocate even more spectrum (24 MHz) than is under consideration in this proceeding (13.34 MHz).[41] Intel goes on to cite the economic benefits to CMRS carriers from a 24 MHz reallocation as opposed to a 13 MHz reallocation, but fails to explain why the CMRS providers should be allocated even a single MHz above the 180 MHz soon to be made available. Not only has the Commission allocated sufficient spectrum overall to terrestrial wireless providers, but it has permitted accumulation of ever-larger blocks of spectrum under common ownership in a series of approvals of mergers and acquisitions in the terrestrial wireless industry. The Commission has permitted these consolidations on the basis of its conclusion that access to large blocks of spectrum is essential for effective competition among carriers and the provision of substantial benefits to the public. Conveniently, these are the same reasons that the terrestrial carriers ignore when the issue is assignment of only 6.67 MHz of spectrum to each of TMI/TerreStar and ICO.[42]

Additionally, the terrestrial wireless industry parties claim that, because TMI/TerreStar's system will have an ancillary terrestrial component, the spectrum should be

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[40] *Id.* at 3-4.

[41] Comments of Intel Corporation, IB Docket No. 05-221, at 6 (July 29, 2005) ("Intel Comments").

[42] Curiously, CTIA, which represents the increasingly consolidated terrestrial wireless industry, claims that necessary spectrum should be denied to TMI/TerreStar because TerreStar's majority shareholder has a significant ownership interest in Mobile Satellite Ventures ("MSV"), which provides MSS in the L-band. *See* Comments of CTIA − The Wireless Association, IB Docket No. 05-221, at 4 n.12 (July 29, 2005) ("CTIA Comments"). TerreStar and MSV, however, are operated independently of each other and, therefore, MSV's spectrum should not be considered to be "available" to TMI/TerreStar. In any event, even the L-band and S-band frequencies available to the two companies are dwarfed by the ever-growing spectrum blocks to which even individual terrestrial carriers have access. *See Applications of AT&T Wireless Services, Inc. & Cingular Wireless Corp.*, 19 FCC Rcd. 21,522 (2004) (authorizing the merged entity to hold almost 70 MHz of spectrum in specific markets); *Sprint-Nextel Order* (authorizing near 100 MHz of Broadband Radio Service spectrum).

auctioned to the highest bidder.[43] Even if the ORBIT Act did not prohibit auctioning of this spectrum,[44] this argument is wrong on the facts and has been resolved by the Commission ATC decisions.[45] Denying earlier this year Cingular's petition for reconsideration of the FCC's decision to authorize the provision of ATC by MSS licensees, the Commission emphasized that "our decision to modify MSS operators' licenses to include ATC authority is consistent with other decisions in which the Commission has extended licensees additional operating rights without accepting competing applications that might have been mutually exclusive and required an auction."[46] In arguing that the remaining MSS spectrum should be auctioned because it would "further [TMI/TerreStar's and ICO's] terrestrial ATC plans,"[47] CTIA and Cingular are attempting a collateral attack on an issue already resolved by the Commission.[48]

TMI/TerreStar's system will, of course, integrate ATC, but the spectrum it seeks in this proceeding will be used, as required by the FCC's rules, by the satellite component of its system as well as the ATC to increase dramatically the capacity of its system and permit the use

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[43] CTIA Comments at 7-9; Cingular Comments at 4-5.

[44] Open-Market Reorganization for the Betterment of International Telecommunications Act, 47 U.S.C. § 765f ("ORBIT Act").

[45] *See* Report & Order, *Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band, the L-Band and the 1.6/2.4 GHz Bands*, 18 FCC Rcd. 1462, 2070 ¶ 224 (2003) ("[T]he terrestrial rights associated with a grant of ATC authority to MSS operators will be directly linked to existing MSS authorizations [and] there will be no separate 'initial' authorizations, and therefore no requirement to use competitive bidding to assign such rights.").

[46] *ATC Reconsideration Order* at 4645-46 ¶ 80.

[47] CTIA Comments at 7-9; *see also* Comments of Cingular Wireless LLC, IB Docket No. 05-221, at 4-5 (July 29, 2005) ("Cingular Comments").

[48] Notably, there are no challenges on this issue pending in the Commission's ATC proceeding, and terrestrial carriers that initially objected have since withdrawn their challenges. Terrestrial carriers' arguments in this proceeding against the Commission's ATC Order are merely back-door attempts to seek reconsideration of that decision.

of advanced wireless technologies that otherwise would be impossible.[49] Accordingly, the claim that this spectrum would be used solely for terrestrial service is incorrect on the facts. Moreover, the Commission has already decided that this spectrum can be used by MSS licensees to provide an ATC. The terrestrial carrier industry's complaints to the contrary here are simply a collateral attack on the FCC's earlier decision in the *ATC Reconsideration Order*,[50] and its requests for more spectrum are at the expense of new, innovative and competitive services that the 2 GHz MSS/ATC licensees will provide. These demands should be rejected.

### 2. The Commission May Not Rely On Estimates Of Terrestrial Auction Revenues In Making Spectrum Allocations.

Section 309(j) of the Communications Act prohibits the Commission, when making allocation decisions, from "bas[ing] a finding of public interest, convenience, and necessity on the expectation of Federal revenues from the use of competitive bidding."[51] Despite this clear statutory command, Intel, CTIA, and others attempt to justify reallocation of MSS spectrum and the resulting harm to rural and homeland security interests on the potential "yield" of "an auction of the returned 2 GHz spectrum."[52] These reallocation proposals aptly illustrate the rationale that caused Congress to enact Section 309(j). Public goods will be served by MSS/ATC that would not be reflected in auction revenues or by terrestrial carriers providing more of the same limited service that is already available. The public interest would be disserved by ceding the necessary public interest determinations to the auction room floor.

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[49] *See* 47 C.F.R. § 25.149.

[50] Second Order on Reconsideration, *Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band, the L-Band, and the 1.6/2x4 GHz Bands*, 20 FCC Rcd. 4616 (2005) ("ATC Reconsideration Order").

[51] 47 U.S.C. § 309(j)(7)(A).

[52] Intel Comments at 10 (alleging that "an auction of the returned 2 GHz spectrum would yield approximately $9 billion!").

Arguments in favor of auction in this spectrum should continue to be disregarded by the Commission. Rather, the Commission should be guided by Congress's recognition that sound public interest evaluations require expert judgment and cannot simply be left to the commercial objectives of the highest bidder.

Even if the Commission could weigh potential auction revenues against the public interest benefits of distributing MSS spectrum to TMI/TerreStar and ICO, the revenue analysis provided by Intel would be of little use. Intel relies on estimates of the value of (former MSS) spectrum assigned to Nextel last year in the 1.9 GHz band, in which the Commission valued 10 MHz of spectrum at $1.70 per MHz-Pop.[53] Those estimates, however, occurred at a time when little or no terrestrial spectrum was available for auction. As has been widely reported, the oncoming rush of spectrum will likely depress prices in upcoming auctions.[54] Adding even more spectrum to the auction block would not change this effect.

### C. The Other Proposed Uses For The MSS Spectrum Would Not Serve The Public Interest.

Several other commenters have sought use of the remaining MSS spectrum for an array of purposes, such as amateur radio communications, that would do little to serve the public interest goals that TMI/TerreStar and ICO will achieve if granted access to sufficient spectrum.

Most notably, Sirius Satellite Radio Inc. ("Sirius") seeks reallocation of *all* available MSS spectrum – comprising both that contemplated in this proceeding and the 10.67 MHz that the Commission has already announced will be distributed to TMI/TerreStar and ICO

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[53] Report & Order, *Improving Public Safety Communications in the 800 MHz Band*, 19 FCC Rcd. 14,969, 15,112 ¶ 297 (2004).

[54] *The New Advanced Wireless Services Spectrum Band*, Comm. Daily (Aug. 4, 2005) (quoting market analyst as explaining that "if Congress succeeds in putting a realistic digital TV transition plan in place before the AWS auction begins, it would dramatically boost the amount of spectrum coming to market. That extra supply has the potential to depress prices in the upcoming AWS auction.").

– for its Digital Audio Radio Service ("DARS"). Like Inmarsat, however, Sirius' assertions to the Commission do not match its recent statement to investors and the public in general. Specifically, earlier this month, Sirius CEO Mel Karmazin told investors and analysts: "When there is a business plan where the additional spectrum would be beneficial for our shareholders, then we would obviously consider acquiring additional spectrum. *But right now, we clearly have sufficient spectrum to deliver what we see needs to be in the future*."[55]

Other proposed uses of the 2 GHz spectrum similarly fail to materially benefit the public interest. For example, the Society of Broadcast Engineers ("SBE") asks the Commission to reallocate 2 GHz MSS spectrum for low-power broadcast auxiliary service ("BAS") uses, and particularly wireless microphones.[56] SBE claims that wireless microphones, which generally operate on unoccupied television channels, have had difficulty finding spectrum during the DTV transition. However, Congress is poised to enact a 2009 "hard date" end to the DTV transition, at which point all analog broadcasts will cease and the television broadcast spectrum will become less crowded. Owing to the spectral efficiency of digital technology, despite a smaller "core" television spectrum (channels 2-51), wireless microphones will face considerably less interference at that time. Wireless microphone users will thus soon have sufficient available spectrum.[57] Similarly, the American Petroleum Institute asks to use the available MSS spectrum

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[55] Paul Gluckman, *Sirius Disavows Knowledge of Rumor That Stern Will Soon Leave Infinity*, Comm. Daily, at 8 (Aug. 3, 2005) (quoting statements of Sirius CEO Mel Karmazin in conference call re: 2nd-quarter earnings) (emphasis added).

[56] Comments of the Society of Broadcast Engineers, IB Docket No. 05-221 (July 29, 2005).

[57] Moreover, the Commission has already determined that BAS users were not making efficient use of the six 17 MHz-wide channels and one 18 MHz-wide channels (at 1990-2110 MHz) previously allocated to that service, and instead directed that BAS users be relocated to a more efficient band plan (at 2025-2110 MHz) of seven 12 MHz-wide DTV BAS channels. *See, e.g.,* Second Report & Order, *Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use By the Mobile-Satellite Service,* 15 FCC Rcd. 12,315 (2000).

for "site-based … Internet Protocol delivery systems"[58] – even though the Commission has already provided ample swaths of spectrum for such services.[59] The Commission should not allow this grab bag of proposals to delay the distribution of remaining MSS spectrum for beneficial use by TMI/TerreStar and ICO.

## II. THE RECORD DEMONSTRATES THAT THE 2 GHz MSS SPECTRUM AT ISSUE IN THIS DOCKET SHOULD BE DISTRIBUTED PRO RATA AMONG THE 2 GHz MSS LICENSEES.

Along with TMI/TerreStar, many other commenters — including Boeing Company, Hughes Network Systems, Lockheed Martin, Alcatel North America and the Satellite Industry Association — have emphasized the unparalleled benefits that a fully featured 2 GHz MSS/ATC system will offer if it receives sufficient spectrum to meet the public's current and future mobile telecommunications needs.[60] A hybrid MSS/ATC service will provide the American public with revolutionary wireless communications technology and services with the investment of a small amount of additional spectrum. Significantly, TMI/TerreStar will offer these advances in coverage and features utilizing substantially less spectrum than their terrestrial competitors.

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[58] Comments of the American Petroleum Association, IB Docket No. 05-221, at 1 (July 29, 2005).

[59] The Broadband Radio Service in the 2150-2162 MHz and 2500-2690 MHz bands, 5 GHz U-NII, 3650-3700 MHz and 70/80/90 GHz bands are among the options API could consider for such purposes. *See* 47 C.F.R. § 2.106.

[60] *See, e.g.,* SIA Comments; Comments of Alcatel North America, IB Docket No. 05-221 (July 29, 2005); Comments of the Boeing Company, IB Docket No. 05-221 (July 29, 2005) ("Boeing Comments"); Comments of Hughes Network Systems, LLC, IB Docket No. 05-221 (July 29, 2005) ("HNS Comments"); ICO Comments; Comments of Lockheed Martin Corp., IB Docket No. 05-221 (July 29, 2005) ("Lockheed Martin Comments").

### A. Distributing This Spectrum To The Existing 2 GHz MSS Licensees Would Best Serve The Public Interest.

As TMI/TerreStar and other parties demonstrated in their comments, redistributing the returned 2 GHz MSS spectrum *pro rata* to the existing licensees in that band will serve the public interest by furthering all four of the pertinent goals that are identified in the Commission's draft Strategic Plan: providing service to rural and other underserved communities, meeting the nation's public safety and homeland security needs, making optimal use of the spectrum resource, and ensuring marketplace competition.[61] Just as importantly, no party filing comments in response to the Second Redistribution Notice disputed the fact that the 2 GHz satellite/terrestrial service will provide these benefits, and none has shown that any other service could as effectively serve these important public interest goals.

#### 1. Providing Advanced Telecommunications Services to Rural and Other Underserved Communities

FCC Chairman Martin recently announced that "[c]reating a policy environment that speeds the deployment of broadband throughout the U.S. is my highest priority" and specifically noted that satellite and wireless technologies are becoming increasingly important in delivering broadband access to all Americans.[62] As many commenters explained, satellite services play a critical role in providing modern telecommunications services to rural and other underserved Americans, and a 2 GHz MSS/ATC with sufficient spectrum to accommodate present and future service needs is critical to fulfilling this mission.[63] As Hughes Network

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[61] *See* Public Notice, *Public Invited to Review Draft Strategic Plan* (July 5, 2005) ("Strategic Plan").

[62] Kevin J. Martin, *United States of Broadband*, Wall St. J. A12 (July 7, 2005). *See also* ICO Comments at 4 (citing Amy Schatz, *Questions for Kevin J. Martin*, Wall St. J. Online (July 18, 2005)).

[63] *See, e.g.,* HNS Comments at 3-5; Alcatel Comments at 1; Globalstar Comments at 6; ICO Comments at 3-7.

Systems pointed out, this goal is crucial because "access to telecommunications services is essential to ensuring that persons residing in underserved or geographically isolated areas are able to participate in today's fast-changing information economy."[64] Furthermore, as the Commission has previously noted, "[i]f [broadband] access is not provided, persons residing in those [underserved] areas will have less opportunity to seek or access educational, medical, economic or other important resources."[65] If the Commission decides to restrict the amount of spectrum available to 2 GHz MSS licensees, this crucial communications goal will have been frustrated.

Parties opposing redistribution have not even attempted to show how, without providing sufficient spectrum to 2 GHz MSS licensees, the Commission's goal of providing broadband service to all Americans could be achieved. No commenters question that the type of hybrid satellite/terrestrial system that TMI/TerreStar is proposing is the only affordable and viable way of getting broadband and advanced digital voice service to all American consumers. Instead, these parties imply, without any basis in fact, that TMI/TerreStar and ICO cannot actually perform on their promises.[66] This baseless argument should be seen for what it is: an admission that, if the Commission wishes to ensure the availability of timely, affordable telecommunications services throughout the country, it must also ensure that 2 GHz MSS licensees have sufficient spectrum to meet their public service obligations.

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[64] *The Establishment of Policies & Service Rules for the Mobile Satellite Service in the 2 GHz Band,* Report & Order, 15 FCC Rcd. 16127, 16144-45 (2000) ("MSS Order") (cited in HNS Comments at 3).

[65] *MSS Order*, 15 FCC Rcd. at 16145.

[66] *See, e.g.,* CTIA Comments at 5.

### 2. Meeting the Nation's Homeland Security Needs

The 2 GHz MSS/ATC systems also are crucial for homeland security. Planning has just begun among the U.S. government agencies that are responsible for the protection of the homeland to identify critical security threats and develop appropriate responses.[67] Satellite systems are an important part of the nation's critical infrastructure. MSS/ATC offers a unique platform on which these solutions may be based − a next generation national satellite system.[68]

The hybrid MSS/ATC system TMI/TerreStar is deploying is uniquely suited to serve this compelling need for a flexible, interoperable, next-generation communications system. As Sens. Burns and Clinton recently pointed out to Secretary Chertoff, "a ubiquitous, nationwide wireless communications network with both a satellite and terrestrial component could fill this requirement."[69] Any number of mission-critical applications could utilize this type of platform, including airport and aircraft security; the interconnection of 450 critical domestic sites in remote rural areas; and providing "seamless back-up in situations where the terrestrial network is down because of a natural disaster or terrorist attack."[70]

TMI/TerreStar has committed itself to reaching out to the national security and homeland security communities to offer the technical and performance characteristics of its

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[67] The number of areas in which satellite services can assist homeland security is dazzling. *See* Peter Brown, *Multimedia Matters: Mr. Chertoff, Take a Moment and Look Up*, Via Satellite (Aug. 1, 2004).

[68] *See* Letter from Lee Cobb, Exec. Dir., Virginia's Region 2000 Economic Development Council, to Marlene H. Dortch, Secretary, FCC, IB Docket No. 05-211 (filed Aug. 10, 2005) (attaching Letter from Carl Hofferberth, Microwave Circuits Inc., and Larry Hatch, Advanced Manufacturing Technology Inc., to Marlene H. Dortch, Secretary, FCC, IB Docket No. 05-211 (filed Aug. 1, 2005)).

[69] Letter from Hon. Conrad R. Burns and Hon. Hillary Rodham Clinton, United States Senate, to Hon. Michael Chertoff, Secretary, Department of Homeland Security (August 4, 2005), attached hereto as Exhibit 2.

[70] *Id.* at 2.

hybrid satellite/terrestrial system as planning guidelines for wireless-based application development, thus ensuring interoperability. TMI/TerreStar will strive to serve as a catalyst between contractors and security end-users in the promotion and facilitation of access and use of advanced mobile satellite systems.

According to Sens. Burns and Clinton, the existence of a next-generation, ubiquitous, interoperable nationwide MSS/ATC system is critical for the development of effective homeland security communications applications. In their letter to Secretary Chertoff, they explain:

> Such a system permits the end user − the public safety and homeland security entities at the federal, state and local levels − to develop, design and deploy critical advanced security applications without undue complication. The 2 GHz band MSS systems that are currently licensed can fill this void only if the FCC allows them each access to the full 2x10 MHz of spectrum that is available in the S band.[71]

As EADS North America Defense recognized, by granting TMI/TerreStar 2 x 10 MHz of spectrum, the Commission can ensure that the network capacity to support these homeland security applications will be available as soon as it is needed.[72] No other proposal for use of the increment of MSS spectrum at issue in this proceeding would address the grave security risks faced today by the nation. As demands for ubiquitous, fully interoperable, and redundant systems increase, MSS/ATC will increase in importance to the nation's critical communications infrastructure. Through progressive thinking and planning, the FCC can ensure that advanced wireless national security applications can be developed today in order to ensure an effective MSS/ATC deployment tomorrow. Accordingly, the public interest compels the

[71] *Id.* at 1-2.

[72] EADS Letter at 1-2.

Commission to grant TMI/TerreStar the 2 x 10 MHz of spectrum that is necessary to serve these critical needs.

### 3. Meeting the Nation's Public Safety Needs

The mobile satellite service, especially combined with an ancillary terrestrial component, is an extremely important part of the nation's critical communications infrastructure in times of emergency.[73] As several commenters emphasized, MSS was essential after the terrorist attacks on this country on September 11, 2001 to initiate the movement of equipment and personnel during rescue operations.[74] Using the technological advances outlined in the Technical Appendix to TMI/TerreStar's comments in this proceeding, TMI/TerreStar's system will -- with 2 x 10 MHz of spectrum -- offer dramatic advances in the state of the art for public safety communications.[75] The fact that the communications network is satellite-based largely insulates it from damage associated with man-made or natural disasters, and the fact that one system will serve the entirety of the United States seamlessly permits interoperability on a scale that has not before been realized.

As the Satellite Industry Association recognized in its comments, a hybrid MSS/ATC network such as the network planned by TMI/TerreStar will allow "public safety

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[73] *See* TMI/TerreStar Comments at 8-9 (citing National Security Telecommunications Advisory Committee, *Satellite Task Force Report: Fact Sheet* (Feb. 2004), http://www.ncs.gov/nstac/reports/2004/Satellite%20Task%20Force%20Fact%20Sheet%20(March%202004).pdf (concluding that the commercial satellite industry is critical to national, economic and homeland security)).

[74] *See, e.g.,* Comments of Rydbeck Consulting, IB Docket No. 05-221, at 2 (July 11, 2005) ("Rydbeck Comments"). *See also* Letter from Dennis J. Burnett, Vice President, EADS North America Defense, to Marlene H. Dortch, Secretary, FCC, IB Docket No. 05-221 (July 25, 2005) ("EADS Letter"); Letter from Carl Hofferberth, Microwave Circuits Inc., and Larry Hatch, Advanced Manufacturing Technology Inc., to Marlene H. Dortch, Secretary, FCC, IB Docket No. 05-221 (filed August 1, 2005); HNS Comments at 5-6.

[75] TMI/TerreStar Comments, Technical Appendix, at § 2.

officials with MSS-enabled handsets [to] have seamless communications capability even if an emergency is beyond the reach of terrestrial wireline or wireless networks."[76] A hybrid MSS/ATC service also will be able to introduce redundancy into the system in a manner that will greatly increase its reliability, capacity and utility for public safety uses. The spectrum requested in this proceeding will permit other advanced services that will benefit public safety. For example, TMI/TerreStar will have the ability to redistribute its spectrum dynamically to increase capacity for public safety personnel in areas affected by disasters when, as is typical, network usage peaks in those areas. Neither terrestrial wireless providers nor traditional satellite providers have this important capability.

**4. Making Optimal Use of the Spectrum Resource**

TMI/TerreStar, with 2 x 10 MHz of spectrum, will make efficient use of the 2 GHz MSS spectrum by commencing service in less then three years time; TMI/TerreStar has already spent nearly a million dollars a day to recognize these goals. No other use of this spectrum could make as much impact on the public good in as short a period of time as the TMI/TerreStar MSS/ATC system, assuming it is given sufficient spectrum.

As explained in a letter by Rydbeck Consulting, if TMI/TerreStar's system is permitted to use the full 2 x 10 MHz of spectrum, it will be able to obtain wireless handsets similar to those provided by terrestrial carriers for only $5 more per unit.[77] Dean Peter Cowhey explains in detail how TMI/TerreStar can take advantage of economies of scale to provide an affordable communications service to the American public.[78] Moreover, the cost of the wireless

[76] SIA Comments at 2.

[77] TMI/TerreStar Comments, Technical Appendix, Exhibit B.

[78] CTIA and others have attempted to use misdirection to assail Dean Cowhey's analysis of the economic viability of TMI/TerreStar's service. *See, e.g.,* CTIA Comments at 5-6, Cingular Comments at 3-4. In essence, these commenters claim that the Cowhey analysis fails because it

service will be only incrementally more than the cost of terrestrial-only service, which does not offer any of the public interest benefits outlined in the many comments supporting redistribution to TMI/TerreStar and ICO.

In addition, reallocation of MSS spectrum to the terrestrial wireless industry would work against the Commission's goal of maintaining and promoting global harmonization of spectrum.[79] Contrary to the claim of CTIA,[80] TMI/TerreStar fully intends to expand its service internationally (and will serve Canada from the outset). Maintaining a globally harmonized 2 GHz MSS would facilitate TMI/TerreStar's international growth and is in the public interest.

Global harmonization of spectrum, however, is important not just for TMI/TerreStar's plan to provide international service, but to the satellite industry worldwide. As CTIA itself has recognized, global harmonization of spectrum "provide[s] tremendous benefits to consumers in the form of increased access, lower prices, and new products."[81] Moreover, in

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analyzes the efficiency and viability of an affordable MSS service -- an economic issue -- and not the market demand for such a service -- a marketing question. Further, as Dr. Bruce Owen explains, a demand analysis is not relevant to the question before the Commission today. Owen Statement at 2. It is telling that, beyond their objections that Dean Cowhey failed to address this extraneous point, these commenters have not identified any flaws in the logic of his analysis.

[79] *See, e.g.*, *Amendment of Part 2 of the Commission's Rules to Allocate Additional Spectrum to the Inter-Satellite, Fixed, and Mobile Services and to Permit Unlicensed Devices to Use Certain Segments in the 50.2-50.4 GHz and 51.4-71.0 GHz Bands*, 15 FCC Rcd 25264, 25280 (taking action to fulfill the goal of global harmonization of spectrum usage by enabling innovations that can be used both here and abroad, lessening the overall developmental costs of new and innovative technologies.")

[80] CTIA Comments at 11.

[81] CTIA Petition for Rulemaking, RM-9920 (filed July 12, 2000) (requesting that the Commission "begin the process of designation additional spectrum for third generation ("3G") wireless service in a manner consistent with decisions adopted" at the ITU's WRC-2000).

their letter to the Commission, the leaders of the Satellite Action Plan Regulatory Group ("SAP REG")[82] and the European Satellite Operators Association ("ESOA")[83] emphasized:

> [T]he MSS industry requires access to at least the full 2 X 20 MHz of spectrum in the 2 GHz range in the United States to develop a range of innovative services, including . . . those with ATC, to the public and other government sector users. Any decision to reduce the 2 GHz MSS allocations further could deal a devastating blow to future development of the MSS industry, both in the US and abroad.[84]

**5. Ensuring Competition**

As TMI/TerreStar demonstrated in its comments and in Section I(A)(2) of these Reply Comments, *pro rata* redistribution to TMI/TerreStar and ICO will best serve the Commission's interest in ensuring marketplace competition. As the Commission has noted, "spectrum is a necessary resource for wireless carriers to compete effectively."[85] With 2 x 10 MHz of spectrum, TMI/TerreStar will lead the market in providing affordable and widely available wireless communications service.

Although it concedes that TMI/TerreStar and ICO would compete in the same market with terrestrial wireless and other satellite carriers, Intel apparently argues that competition is sufficient in that market and that the 2 GHz mobile satellite service would not, in

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[82] SAP REG's members include Alcatel Space, Connexion by Boeing, EADS, Eutelsat, France Telecom, Hispasat, Hughes Network Systems, ICO Global Communications, Inmarsat Ventures PLC, New Skies Satellites, SES Global, Telespazio, Thuraya and WorldSpace.

[83] ESOA's members include EADS Space Services, EurasiaSat SAM, Europe*Star, Hellassat, Hispasat, Inmarsat Ventures PLC, New Skies Satellite, Nordic Satellite AB, SES Global, Telenor and Telespazio.

[84] *See* Letter from Kumar Singarajah, Chairman, Satellite Action Plan Regulatory Group, and Aarti Holla-Maini, Secretary General, European Satellite Operators Association, to Marlene H. Dortch, Secretary, FCC, IB Docket No. 05-221, at 2 (filed Aug. 12, 2005) ("SAP REG/ESOA Letter").

[85] *Applications of Western Wireless Corp. & ALLTEL Corp.*, WT Docket No. 05-50 at ¶ 49 (July 19, 2005) ("ALLTEL-Western Wireless Order").

any event, be an effective competitor. To reach these conclusions, Intel bases its argument on one invalid assumption: that the advanced MSS/ATC of TMI/TerreStar and ICO will be the same as the basic MSS of Inmarsat and other traditional mobile satellite providers. This conclusion is not based in fact and is not supported by the record. TMI/TerreStar and ICO will provide a fully featured wireless voice and data communications service that is, from the consumer's perspective, interchangeable with terrestrial wireless services. This principle, known as transparency, is the key difference between next-generation MSS/ATC and the more limited offerings that have come before it.

As Dr. Owen explains, the fact that earlier MSS providers such as Inmarsat did not compete with terrestrial wireless carriers does *not* mean that TMI/TerreStar's advanced, transparent and interoperable MSS/ATC system would meet the same fate.[86] Indeed, the FCC has already explained that the only reason MSS services have not been considered to be in this market is that they are priced much higher than terrestrial services.[87] TMI/TerreStar has committed to offering a transparent MSS/ATC service, substitutable with terrestrial-only mobile service, that will provide greater functionality than terrestrial, at a price that is sufficiently close to that currently charged by CMRS carriers to be competitive. It will bring new, significant competition to the wireless telecommunications market, and thereby increase the quality of service provided by the market to the American public.

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[86] *Id*. at 3.

[87] *Sprint-Nextel Order*; *see also ALLTEL-Western Wireless Order* at ¶ 38. (Aug. 8, 2005) Although satellite providers offer facilities-based mobile voice and data services, the price of these services is significantly higher than for services offered by cellular, PCS or SMR carriers. Therefore, most consumers would not view satellite phones as substitutes for mobile telephony.

### B. An Effective 2 GHz MSS/ATC System Requires 2 x 10 MHz of Spectrum.

In order to provide a full range of public benefits, a 2 GHz MSS/ATC system must receive an assignment of 2 x 10 MHz spectrum. As TMI/TerreStar has demonstrated, 2 x 10 MHz of spectrum would allow TMI/TerreStar to serve up to 5 million subscribers, even without an ATC.[88] Moreover, the incremental increase in spectrum proposed in this proceeding will allow the TMI/TerreStar system to serve almost twice as many concurrent users as it could with 2 x 6.7 MHz.[89] This full amount of spectrum would also be necessary to ensure that TMI/TerreStar's subscribers could take advantage of future innovations in air interfaces or other wireless communications technologies.

As Satellite Action Plan Regulatory Group ("SAP REG") and the European Satellite Operators Association ("ESOA") explain in their letter to the Commission, "the 2 X 20 MHz of currently allocated spectrum in the 2000-2020 MHz and 2180-2200 MHz frequency bands is the strict minimum for an economically viable MSS industry in the US, particularly in view of successfully taking advantage of the opportunity created by the FCC's recent adoption of

[88] CTIA and others have seized on one sentence in the *2 GHz Order* to suggest that the Commission has decided that a small amount of spectrum would be sufficient for the MSS providers to commence service. *See, e.g.,* CTIA Comments at 4. These commenters, however, ignore the fact that the Commission, like all of the licensees involved, expected there to be a winnowing of the then-eight licensees and recognized that MSS licensees would need access to expansion spectrum to be successful. *See, e.g.,* Report & Order, *Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band*, 15 FCC Rcd. 16127 ¶¶ 13, 35 (2000) (noting that one of the Commission's goals was to create "a mechanism for systems to increase their amount of authorized spectrum when needed"). The Commission has long expected that the remaining licensees would ultimately receive more spectrum than they were initially assigned, and that this additional spectrum would be critical to the success of a viable next-generation MSS system. *See* Third Report & Order, *Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services, Including Third Generation Wireless Systems*, 18 FCC Rcd. 2223, 2239 ¶¶ 31-32 (2003) (recognizing that 2 GHz MSS licensees needed more than their initial spectrum assignments for their systems to be viable, and noting that this additional spectrum would likely come in the form of abandoned spectrum from licensees that surrendered their authorizations).

[89] TMI/TerreStar Comments, Technical Appendix, at 2.

the ATC framework."[90] Importantly, SAP REG and ESOA emphasize that "the allocation of 2 x 20 MHz in itself already represents a substantial reduction with respect to the 2 X 30 MHz of spectrum for the MSS allocated by most . . . Administrations."[91]

Throughout this proceeding, TMI/TerreStar has demonstrated why 2 x 10 MHz of spectrum is necessary for the 2 GHz MSS/ATC systems to make substantial contributions to the public benefit. TMI/TerreStar's position has been supported by a variety of parties in this proceeding, including Loral Space & Communications, an undisputed leader in the satellite communications field.[92] In its letter to the Commission, Loral emphasized that the spectrum available to the 2 GHz MSS licensees would, without the increase contemplated in this docket, "fall short … of the baseline 2 x 10 MHz necessary to delivery the full benefits of an MSS…."[93] The evidence in this docket clearly supports redistributing a *pro rata* share of the spectrum at issue here to TMI/TerreStar.

## III. THE COMMISSION HAS FULL LEGAL AUTHORITY TO DISTRIBUTE RETURNED 2 GHz MSS SPECTRUM AS CONTEMPLATED IN THIS AND ANOTHER PROCEEDING.

The Commission has full legal authority to redistribute spectrum as contemplated in this proceeding.[94] A separate rulemaking is neither necessary nor advisable; this course of action would substantially delay the availability of communications services to the public using the 2 GHZ band.

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[90] SAP REG/ESOA Letter at 2

[91] *Id.*

[92] Letter from Laurence D. Atlas, Vice President, Government Relations, Loral Space & Communications, to Marlene H. Dortch, Secretary, FCC, IB Docket No. 05-221 (filed Aug. 2, 2005).

[93] *Id.* at 1.

[94] *See First Redistribution Notice*; Comments of TMI and TerreStar, IB Docket No. 05-220 (July 25, 2005).

Section 316 of the Communications Act authorizes the Commission to modify "any station license … if, in the judgment of the Commission such action will promote the public interest, convenience, and necessity."[95] Congress, relying on the FCC's expert ability to make reasoned communications policy decisions, gave the Commission broad discretion to modify licenses, including by assigning spectrum to the existing licensees, where, as here, redistribution promotes the public interest, convenience, and necessity.[96]

In this proceeding, Cingular, CTIA, Inmarsat, and others have attempted to combine this proceeding with IB Docket No. 05-220.[97] In fact, as the Commission properly recognized by establishing separate dockets, the two proceedings involve distinct policy issues for the Commission and require it to weigh different legal standards. The approach that the FCC has taken is well within its authority.

The Commission has wide latitude to order its own docket and need not resolve all issues at once, even though related, so long as it explains its course (as it has here) and acts reasonably.[98] The contrary and fallacious legal arguments of parties otherwise unaffected by the spectrum decisions before the FCC should not distract the Commission from the important spectrum policy decisions that are at issue here.

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[95] 47 U.S.C. § 316(a).

[96] The public interest benefits of the proposed redistribution are discussed at length in Parts I and II of these Reply Comments, in TMI/TerreStar's comments in this proceeding, in TMI/TerreStar's reply comments in IB Docket No. 05-221, in its initial April 19, 2005 request that prompted this docket, and in the filings of numerous other commenters.

[97] *See* CTIA Comments (attaching comments from IB Docket No. 05-220); Inmarsat Comments (re-filing comments from IB Docket No. 05-220); Intel Comments (re-filing comments from IB Docket No. 05-220).

[98] *See* TMI/TerreStar Comments at 29 (citing *Telecommunications Resellers Association v. FCC*, 141 F.3d 1193, 1196 (D.C. Cir. 1998); *Cable & Wireless P.L.C. v. FCC*, 166 F.3d 1224 (D.C. Cir. 1999)).

Moreover, the Commission has provided, in both proceedings, ample opportunity for interested parties to have their positions considered.[99] Accordingly, initiation of a separate rulemaking is unnecessary; any contrary suggestion would be a transparent attempt to delay the Commission's consideration of these issues and avoid the competition that will be brought by 2 GHz MSS/ATC systems with 2 x 10 MHz of spectrum. As a threshold matter, it is difficult to imagine what additional arguments these commenters might make in a rulemaking that they have not already made at length in these proceedings. In addition, the Commission has already sought extensive guidance on this exact policy question in its *Licensing Reform* proceeding.[100] There, the Commission received extensive public comment and established a system under which any spectrum surrendered by an "NGSO-like" licensee -- a term which includes MSS[101] -- would be distributed *pro rata* among the remaining NGSO-like licensees in the same band until, as here, only two licensees remain in the band. At that point, the Commission determined that it would redistribute such spectrum based on a determination that such an action would result in extraordinarily large, cognizable, and non-speculative efficiencies. Although the Commission

[99] *See* CTIA Comments at 9-13; Sirius Comments at 14-15; Comments of Total RF Marketing, IB Docket No. 05-221, at Conclusion (July 29, 2005).

[100] *Amendment of the Commission's Space Station Licensing Rules and Policies*, IB Docket No. 02-34. *See* TMI/TerreStar Comments at 28. CTIA persists in arguing in its comments (pp. 6-7) that the *Space Station Licensing Order* and the rules adopted in it cannot apply to the 2 GHz MSS service. CTIA, however, participated fully in that docket, and even suggested in its comments in that docket that the MSS spectrum to which that docket applied "could be made available for other uses such as CMRS" rather than "underutilized satellite allocations." Comments of CTIA, IB Docket 02-34, at 2 (June 3, 2002). CMRS, of course, is dominantly a 2 GHz service. Given that CTIA itself seemed to contemplate at the time that the rules to be adopted in IB Docket 02-34 would apply to 2 GHz spectrum, its arguments that these rules should not apply here should be disregarded. At any rate, CTIA's arguments amount to a late-filed petition for reconsideration of rules that are clear on their face; any claim that insufficient notice was provided for these rules should have been brought years ago and cannot be raised now. *See Jem Broadcasting v. FCC*, 22 F.3d 3320 (D.C. Cir. 1994).

[101] *Amendment of the Commission's Space Station Licensing Rules,* 18 FCC Rcd. 10760, 10774 (2003).

has decided in the Second Redistribution Notice to rely solely on its authority under Section 316, and not to apply its *Licensing Reform Order* procedures, the FCC has already received extensive comment on the policy issues raised by the analogous procedure.[102] No party can claim, therefore, that it has been denied an opportunity to comment or to participate in the Commission's consideration of the issues associated with its spectrum redistribution policies.

In a final effort to thwart the Commission's redistribution of this spectrum to TMI/TerreStar and ICO, the terrestrial wireless industry commenters claim that the returned 2 GHz MSS spectrum should be reallocated for an alternative use and auctioned to the highest bidder.[103] Because, as Intel points out,[104] Congress has prohibited the auction of spectrum used by satellites providing international service in the ORBIT Act,[105] and because the Commission has already made clear that MSS/ATC spectrum is not to be assigned by competitive bidding,[106] these commenters' calls for auction must be rejected.

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[102] Even if the Commission were to apply its *Licensing Reform* procedure in this proceeding, the extensive record demonstrates that redistribution to TMI/TerreStar and ICO would result in extraordinarily large, cognizable, and non-speculative efficiencies.

[103] CTIA Comments at 9-12; Cingular Comments at 2; Intel Comments at 3-5; As discussed in Section II(8)(2) of these Reply Comments, an auction would also defy Congress's intent in enacting the Communications Act and the ORBIT Act, and would violate the very core of the FCC's responsibility to allocate spectrum based on its own public interest determinations.

[104] Intel Comments at 5.

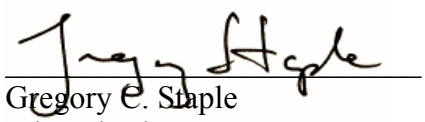
[105] Open-Market Reorganization for the Betterment of International Telecommunications Act, 47 U.S.C. § 765f ("ORBIT Act"). CTIA cites the D.C. Circuit's recent decision in *Northpoint Technology, Ltd. v. FCC*, No. 02-1194, 2005 WL 1653051 (D.C. Cir. Jul. 15, 2005), for the proposition that the ORBIT Act does not preclude the auctioning of this spectrum. *Northpoint*, however, is merely a statement of deference the Commission as to how it defines an "international satellite service." Nothing in the decision even comes close to, as CTIA would have it, forbidding the Commission to exclude the 2 GHz MSS from that definition.

[106] *See, e.g., ATC Reconsideration Order* at ¶ 77.

## CONCLUSION

The now-fully developed record supports the immediate *pro rata* distribution of 6.67 MHz each to TMI/TerreStar and ICO. This will provide TMI/TerreStar's hybrid 2 GHz MSS/ATC service with the spectrum that will permit it to bring unparalleled benefits to the American public. The Commission should reject the arguments of parties who seek to obstruct realization of the public interest benefits and competition that TMI/TerreStar, with a full complement of 2 x 10 MHz of spectrum will bring to America and immediately redistribute the returned 2 GHz MSS spectrum *pro rata* to TMI/TerreStar and ICO. No party has shown any public policy reason to delay this resolution of the issue. Delay in reaching this decision would inject unnecessary and destructive uncertainty in the investment, construction and implementation process of the next-generation MSS/ATC system.

Respectfully submitted,



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August 15, 2005

Reply Comments of TMI and TerreStar
IB Docket No. 05-221

# EXHIBIT 1

Letter from Deutsche Bank Securities Inc.
to Christopher Downie, Exec. VP & CEO,
Motient Corp. (Aug. 12, 2005)


Deutsche Bank Securities Inc.
60 Wall Street
New York, New York 10005

*August 12, 2005*

Motient Corporation
300 Knightsbridge Parkway
Lincolnshire, IL 60069

For the Attention of: Christopher Downie
Executive Vice President and
Chief Operating Officer

Dear Sirs:

Deutsche Bank Securities Inc. ("Deutsche Bank") is currently serving as a financial advisor to Motient Coroporation ("Motient"), the majority investor in TerreStar Networks, Inc. ("TMI/TerreStar"). Earlier this year, Deutsche Bank advised Motient on its capital raising of $400 million to, in part, help finance the construction of the TMI/TerreStar satellite that is currently underway.

You have advised Deutsche Bank that TMI/TerreStar intends to build a hybrid satellite/terrestrial system. Based on our role as a financial advisor to Motient and our knowledge of the mobile satellite industry, including the impact of the ancillary terrestrial component on its investment case, as well as the deployment plans of TMI/TerreStar, we believe that there is significant investor interest in providing capital for TMI/TerreStar's construction, launch and operation of its satellite network and build out of its advanced terrestrial wireless network.

Our belief is subject to, among other things, there not having occurred any material adverse change in the condition (financial or otherwise), results of operations, business or prospects of you and/or TMI/TerreStar and there not having been any disruption or material adverse change in the market for new issues of securities or the syndication market for credit facilities or the financial or capital markets in general.

In addition, our belief is subject to no material adverse change in the following trends that are relevant to the TMI/TerreStar financing plan that we have witnessed over the past 12 months:

First, is an increase in funds flow into investment vehicles involved in the mobile satellite industry.

Second, is a continuing growth trend for the wireless industry in terms of users, profitability, and new services. As a result of this growth, consolidation has started to occur such that the supply of wireless stocks has declined.

Finally, the past 12 months have seen a continuation of the growing investment trend in the satellite sector, with specific examples in the mobile satellite industry including a successful IPO for Inmarsat plc, equity fundraising at Mobile Satellite Ventures and debt financing for Iridium Satellite LLC.

We believe that accessibility to the equity and debt capital markets for TMI/TerreStar will be further enhanced with its access to 2x10 MHz of spectrum at the S band. Furthermore, we understand that this amount of spectrum is of importance to the TMI/TerreStar business case for the following reasons:

- It provides sufficient capacity to serve a significant portion of the United States population, enabling TMI/TerreStar to obtain consumer handsets and network components at reasonable prices.

- It provides the TMI/TerreStar network the ability to offer IP-based communications services via a high-throughput network that brings universal coverage to the United States, and the potential for differentiated applications and services for TMI/TerreStar's partners.

- It ensures that sufficient capacity is available for the advanced applications that are being developed for homeland security and public safety.

This letter is not intended to be and should not be construed as a commitment to provide or arrange, or to offer to provide or arrange any financing, on terms described herein or otherwise, and is provided pursuant to our engagement letter with you.

Except as otherwise required by law or unless Deutsche Bank has otherwise consented in writing, you are not authorized to show or circulate this letter to any other person or entity nor may any other person or entity rely on this letter for any purpose; provided, that you are hereby authorized to file a copy of this letter with the Federal Communications Commission (the "Commission") for purposes of the S Band Proceeding currently pending at the Commission.

Very truly yours,

Deutsche Bank Securities Inc.

DEUTSCHE BANK SECURITIES INC.

Reply Comments of TMI and TerreStar
IB Docket No. 05-221

# EXHIBIT 2

Letter from Hon. Conrad R. Burns and
Hon. Hillary Rodham Clinton,
United States Senate,
to Hon. Michael Chertoff, Secretary,
Department of Homeland Security
(August 4, 2005)

# United States Senate

WASHINGTON, DC 20510

August 4, 2005

The Honorable Michael Chertoff
Secretary
Department of Homeland Security
Washington, DC 20528

Re: Ensuring Sufficient Spectrum for Hybrid Satellite/Terrestrial Systems for Homeland Defense by the Federal Communications Commission

Dear Secretary Chertoff:

We wanted to bring to your attention an issue that is of great importance to the homeland security of the United States that is pending at the Federal Communications Commission, and one that we trust the Department of Homeland Security will take the lead on. The FCC is considering whether it will assign additional spectrum (for a total of 2x10 MHz) to existing mobile satellite service licensees in the 2 GHz band, with a terrestrial component to their service.[1] These licensees are developing advanced hybrid satellite/terrestrial systems that will provide ubiquitous, fully reliable, redundant and interoperable high-speed data services across the United States. Several terrestrial providers and satellite service providers are urging the FCC to leave these hybrid systems capacity constrained. If the FCC assigns the hybrid-system licensees the full 20 MHz of spectrum, these systems will also have the capacity to handle the types of advanced applications that are being developed for use by emergency responders.

In our experience, lack of spectrum capacity is a major impediment to the development of advanced communications applications for emergency management and homeland security. Legacy networks are unable to support advanced security applications. Advanced security applications cannot be dependent on networks with a variety of protocols, varied bandwidth, competing commercial priorities and products and tenuous interconnection arrangements.

The FCC, working with the Department of Homeland Security, has an opportunity to avoid these challenges – which by their very nature take time and resources to work out – by ensuring a next-generation, ubiquitous, interoperable nation-wide wireless system. Such a system permits the end user – the public safety and homeland security entities at the federal, state and local levels – to develop, design and deploy critical advanced security applications without undue complication.

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[1] Public Notice, Commission Invites Comments Concerning Use of Portions of Returned 2 GHz Mobile Satellite Service Frequencies, FCC 05-134 (June 29, 2005); Public Notice, Commission Invites Comments Concerning Use of Portions of Returned 2 GHz Mobile Satellite Service Frequencies, FCC 05-133 (June 29, 2005).

The 2 GHz band MSS systems that are currently licensed can fill this void only if the FCC allows them each access to the full 2x10 MHz of spectrum that is available in the S band. Airport and aircraft security are one important area where the licensees could use the spectrum for a critical national security use. As you recently recognized, "[i]n aviation, our security and our convenience and efficiency can be strengthened by better use of technology, both existing and next generation technology."[2] Advanced imaging applications are being developed that could permit passenger scrutiny from *inside the aircraft before it departs the terminal.* This could be performed over a wireless signal from the plane to a satellite, which would transmit the data to TSA within the Department of Homeland Security. Existing satellite systems may not be able to provide sufficient resolution and bandwidth for this kind of application. Additionally, the Department of Defense has issued a Request For Information on the feasibility of interconnecting, via broadband, 450 critical domestic sites – many in rural or remote areas – to close any gaps in our homeland defense infrastructure. Most of these sites are in rural areas, which lack a developed land-based telecommunications infrastructure. Consequently, a ubiquitous, nationwide wireless communications network with both a satellite and terrestrial component could fill this requirement.

In addition, we see these hybrid wireless systems playing an important role for millions of rural Americans, because these systems will serve as a seamless back-up in situations where the terrestrial network is down because of a natural disaster or terrorist attack.

As you correctly recognized during your Second Stage Review, it is imperative that the Department of Homeland Security has a leading role in telecommunications to protect our critical infrastructure. Accordingly, we are asking the Department of Homeland Security to play a leading role on this issue. We believe the FCC would give some deference to your views on this matter, and we urge you to be actively involved as the FCC considers how it will allocate this spectrum. Please contact us if you have any additional questions.

Sincerely,

Conrad R. Burns

Hillary Rodham Clinton

[2] Secretary Michael Chertoff, U.S. Department of Homeland Security Second Stage Review Remarks, July 13, 2005.

Reply Comments of TMI and TerreStar
IB Docket No. 05-221

# EXHIBIT 3

Mark Holmes, *Executive Q&A: Inmarsat CEO Happy with IPO Performance*, Satellite News (Aug. 8, 2005)

8/8/05 Satellite News (Pg. Unavail. Online)
2005 WLNR 12471037

Satellite News


August 8, 2005

Volume 28

Section: 31

# Executive Q&A: Inmarsat CEO Happy With IPO Performance

Inmarsat is set to look back at 2005 as a momentous year. In June, the operator performed a successful initial public offering (IPO), and later this year it is set to launch its BGAN (Broadband Global Area Network) service, the company's latest innovation in mobile data services. Inmarsat shares already are proving popular, trading around the GBP3.50 mark ($6.20), up from the offer price of GBP2.45 ($4.33) (for more on Inmarsat's stock performance, see the "Orbiting Wall Street" column).

Maury Mechanick, counsel at Washington, DC law firm of White & Case LLP said the Inmarsat story is likely to be very appealing to investors.

"As the wave of private equity funds has spread across the satellite services business, the Inmarsat story remains rather compelling," Mechanick told Satellite News. "Inmarsat's private equity owners essentially pioneered the private equity romance with the satellite industry, armed with what now clearly appears to have been a cohesive forward-looking strategy tied to sound business fundamentals. The most telling confirmation of this is the company's recent move into the public markets, seemingly effortlessly effectuated."

The launch of BGAN also will be a key facet of the operator's performance in 2005. Based on Internet protocol (IP) technology, BGAN delivers data rates of up to half a megabit and the service is accessed through a small, lightweight satellite terminal. The service is scheduled to launch in Europe, the Middle East and Africa. However, competition will be tough.

"Mobility has become the new mantra of the telecommunications world, and the competition coming on multiple fronts -- satellite, terrestrial and hybrid networks -- will be fierce," Mechanick said. "Flexibility to evolve and adapt to rapidly changing market conditions remains the key to long term viability."

In an exclusive interview with Satellite News International Editor Mark Holmes, Inmarsat CEO Andy Sukawaty talks about the company's prospects, his expectations for the BGAN service and the other challenges facing Inmarsat throughout the next 12 months.

Satellite News: How would you compare Inmarsat's IPO to those launched by Panamsat and New Skies? Do you think the Inmarsat story is more appealing to investors?

Sukawaty: Inmarsat's IPO was different than the other satellite companies. We are the only mobile services company to do an IPO. We, I think, have a different financial profile, which we were quite clear in presenting. In the mobile satellite services business we don't have long-term contracts or order books and we don't talk about things like transponder utilization. Instead, we sell on a minutes and bits basis. To get into the mobile satellite business, we believe you really need to have a global presence. It requires a large capital investment up front and then you reap the benefits of that over a large period of time as opposed to the Fixed

Satellite Services business, where you put up satellites with a contract for a specific geography, rather than [for a] global [presence].

To get that story told, required making it clear to people that we are different, so we decided to list in London instead of the United States, where the recent IPOs in the satellite sector have been done. I think that was quite effective, because we got our story listened as well. We were able to differentiate ourselves. The facts speak for themselves when you are able to do that.

Satellite News: How do you view the reaction to your IPO?

Sukawaty: We priced at the top of the range and we were 10 times over- subscribed. So demand was clearly there. I think it was a combination of our strong dividend yield along with the prospects for growth that is quite a unique profile in the financial markets today. That got people's attention. Also, there are not that many companies that are as mature as we are that are doing their initial public offering. So that made us a new entrant but one which was a unique and rare opportunity to get on the bandwagon with.

Satellite News: Is Inmarsat looking to play a role in the satellite radio market in Europe? Do you think the success of Sirius Satellite Radio and XM Radio can be replicated in the European market?

Sukawaty: Satellite radio in Europe has potential. It is not a market like the United States. The United States already has two competitors. Also, you have the segmentation of the market, both from a cultural language perspective and a regulatory perspective. That makes the case for satellite radio much weaker or much more difficult to make in Europe.

Given that, we have an investment already in place, I think this puts us in a good position to potentially support a provider of satellite radio with our backbone. That has been our intent in pursuing opportunities in that area. I think, having looked at it more deeply, there is some real opportunity there, but it won't be the same type of service that you see in the United States.

In terms of the timeline as to when this might happen, it is too early to say. We are in exploratory discussions at this point.

Satellite News: Do you think a linkup between Inmarsat and SES on satellite radio is in the cards?

Sukawaty: No comment.

Satellite News: What role will Inmarsat play in Galileo? Do you think the decision to have a joint consortia was the correct decision? Were you surprised this was not done sooner?

Sukawaty: The Galileo Joint Undertaking (the organization formed to award the Galileo concession) took a long time to decide. I think that made it inevitable that we had to look at bringing the consortia together. These are very expensive types of developments and the longer the decision making process continues, the more difficult it is for all the players to do a high-quality job. Bringing the consortia together at this stage, I think, makes a lot of sense. The actual structure of that is still under discussion. We think the parties involved make it a very strong overall competence that has been bought to the table. I think there are complementary skills at the table. We play a very vital role, because we are the only U.K firm involved in it. We also have the operational and satellite expertise and the procurement expertise that a lot of the others around the table do not have.

Satellite News: What are your views on the allocation of 2 gigahertz spectrum in the United States? How realistic is it for Inmarsat to obtain this spectrum to become more of a global player?

Sukawaty: Time will tell how realistic it is. I think it is clear that if it is something in the mobile services satellite sector globally, we want to be involved in it. That may not have always been the case for Inmarsat when it was an intergovernmental organization. While we have the spectrum we require today to meet most of our needs, we are looking to the future and 2 gigahertz could be an expansion band for us to provide new services. So we see that as a real opportunity, and we are not going to let this pass us by.

In the United States, there are complications because they give out U.S.- only licences. Therefore, if we are going to get a global license, we have to be playing in the U.S., where we have a gap and therefore, we are forced to comment on the proceedings with the Federal Communications Commission in this area and put our best foot forward. I think we have done that. We have put a business case in, which I understand others have not from their comments and filings. We will continue to press for allocations where we think we can add significant global value to the services that are provided.

Satellite News: How much of a boost to your global BGAN strategy would it be were you to gain this spectrum?

Sukawaty: In the short- to medium-term, it would not make a whole lot of difference. We fully contemplated going with L-band only spectrum and that is what we have planned for. But you have to look well beyond the horizon here. If we were to dream up that next constellation to put in the sky today, by the time it got designed, built and launched into commercial service, you are talking about a minimum of a five- to six-year window. Add a little bit onto that for licensing and potentially fund raising for it, and you are talking between seven to nine years. So we may be looking beyond an eight- to 10-year horizon for this S-band.

Satellite News: What are the major issues ahead of the BGAN launch?

Sukawaty: We have launched the first satellite. The second is scheduled to be launched later this year or early next. The service itself is on track for a launch in November. We have got terminals from three of the four manufacturers that we are working on and testing. We have announced nine distribution partners. We have trained people in three regions now. So our channels are being trained on the service. This is not just for sales but also for support of BGAN service. There have been hundreds of people who have been trained so far. We are gearing up and feeling quite good about a strong introduction of the service later this year.

Satellite News: Could you give us an update on your capital expenditure plans and how you see BGAN services developing over the next two years?

Sukawaty: Next year is the last major year of our Inmarsat-4 investment. After that, it starts to taper off quite dramatically and I think the forecasts show that. I think our defense sector continues to be a high priority for us in terms of growth. We can see from the conversations we and our distribution partners are having that there is a prospective high level of demand coming from that sector, which is consistent with what we have seen historically in the growth in our defence sector.

We see media being a strong area for us for BGAN. To have a terminal this small, one third of the size, cost and weight, but three times the data speed, is a pretty strong proposition to put into various sectors that we are dealing with. In the media sector, there is a race to stay competitive in the services that are offered. We see a particularly quick take-up in that sector.

Satellite News: How do you see the mobile satellite services landscape changing throughout the next two years?

Sukawaty: Clearly the move to data services has been enormous. Almost 70 percent of our traffic now is data. The move to IP data is going to be more pronounced. It is simply piggy backing off of applications that already exist in other wireless networks terrestrially. That will clearly be a trend.

As you see more PDAs out there, as you see more laptops on Wi-Fi and WiMax networks, there is going to be greater demand for it to be used in the areas where we are as well. We like to say we are an extension of those terrestrial networks to other areas. Clearly, with data applications growing, we are going to be a in good position to capitalize on that.

In terms of the sector itself, I think we will continue to see growth in the hand-portable voice market. You have seen Iridium, Globalstar and Thuraya all grow in a fairly healthy way. Perhaps they cannot support the capital investments for what they have put up there with voice-only, hand-portable service, but they have grown a significant market. I think the estimate for last year is that hand-portable voice was that it was a $450 million annual market. That is something we might go after in the years ahead with our Inmarsat-4 satellites. We can certainly implement another air interface to address the hand-portable voice market, so that could be a change in the landscape as well.

Satellite News: With the influx of 3G, is the market opportunity just as big for Inmarsat here? What are your targets in terms of customers a year after launch?

Sukawaty: Minimal. 3G has not only taken off slowly but the applications development has been slow and very specific to a city or country. So, football clips, picture messaging, but between closed groups. It has not been business applications that have been driving it. We deal in the governmental, industrial base. As the business applications take off, we will be able to capitalize on that. That is a longer development and buy cycle. So, we would see three years out, impact from the 3G services launched.

Satellite News: What are the major challenges facing the company over the next 12 months?

Sukawaty: You have the launch of BGAN and the launch of our second satellite. You have the adjustment to being a public company meaning we need to make sure we execute on a quarter-by-quarter basis. We have got some opportunities to continue healthy growth but tempered by some challenges that we have to carefully manage.

(Chris McLaughlin, Inmarsat, Christopher_McLaughlin@inmarsat.com; Maury Mechanick, White and Case, mmechanick@washdc.whitecase.com)



---- INDEX REFERENCES ----

COMPANY: SIRIUS SATELLITE RADIO INC; SES(SOCIETE NATIONALE ELF AQ); FEDERAL COMMUNICATIONS COMMISSION; INTERNATIONAL MARITIME SATELLITE ORGN (INMARSAT)

NEWS SUBJECT: (Corporate Performance (1XO12); Business Management (1BU42); Infrastructure (1IN78); Corporate Funding (1XO17); Initial Public Offerings (IPOs) (1IN65); Corporate Globalization (1XO29))

INDUSTRY: (Enterprise Performance Management (1EN49); Financial Services Networking (1FI57); Theoretical Analysis (1TH79); Satellite (1SA91); Investment Management (1IN34); Broadband Services (1BR03); Telecom Satellites & Services (1TE46); Advanced Networking Technology (1AD67); Consumer Audio Products (1CO84); Consumer Video Products (1CO02); Aerospace & Defense (1AE96); Network Services (1NE60); Financial Services (1FI37); Defense (1DE43); I.T. in Defense (1IT57); I.T. in Financial Services (1IT24); Telecom Engineering Services (1TE94); Telecom Services (1TE09); Stocks (1EQ09); Telecom Carrier Operational Support Services (1TE92); Wireless Services (1WI30); Wireless LAN (1WI22); I.T. (1IT96); Securities Investment (1SE57); Broadband (1BR88); I.T. in Telecom (1IT42); Consumer Electronics (1CO61); Electronics (1EL16); Internet (1IN27); Advanced Digital Technologies (1AD50); Science & Engineering (1SC33); Military Forces (1MI37); Networking (1NE45); PC/TV Convergence (1PC88); Telecom (1TE27); Business Theory (1BU14))

REGION: (North America (1NO39); Europe (1EU83); Americas (1AM92); USA (1US73))

Language: EN

OTHER INDEXING: (BGAN; CHRISTOPHER; FEDERAL COMMUNICATIONS COMMISSION; FIXED SATELLITE SERVICES; INMARSAT; IP; IPO; MCLAUGHLIN; SATELLITE; SATELLITE NEWS; SATELLITE NEWS INTL; SES; SIRIUS SATELLITE RADIO; THURAYA) (Andy Sukawaty; Chris McLaughlin; Flexibility; Happy; Mark Holmes; Maury Mechanick; Mechanick; Mobility; Sukawaty)

Word Count: 2554
8/8/05 SATN (No Page)

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Reply Comments of TMI and TerreStar
IB Docket No. 05-221

# EXHIBIT 4

Bruce M. Owen

"Economic Issues Related to the Number of Firms Licensed to Use 2 GHz Spectrum for MSS Services"

**Economic Issues Related to the Number of Firms Licensed to Use 2 GHz Spectrum for MSS Services**

Bruce M. Owen

My name is Bruce M. Owen. I am the Gordon Cain Senior Fellow in the Stanford Institute for Economic Policy Research at Stanford University and, by courtesy, Professor of Economics in the School of Humanities and Sciences. I have recently been designated the Morris M. Doyle Centennial Professor of Public Policy in the School of Humanities and Sciences and Director of the Interdisciplinary Program in Public Policy. At Stanford, I teach an undergraduate course in economic analysis of law and legal institutions. I hold a B.A. from Williams College (1965) and a Ph.D. in economics from Stanford University (1970).

I am also a consultant to the economic consulting firm Economists Incorporated, which I co-founded in 1981 and of which I was CEO until 2003. Before founding Economists Incorporated, I was chief economist of the Antitrust Division of the United States Department of Justice (1979-1981). I am the author of a number of books and articles dealing with the economics of regulation, antitrust economics, and telecommunications policy. I have consulted with antitrust and other agencies of the U.S. government, the World Bank, and several foreign governments on competition policy. I have also been a consultant (and in some cases a testifying expert in state and federal courts) for a large number of private and government clients in connection with antitrust issues. My curriculum vitae is attached as Appendix 1 to this report.

I have been asked by TMI Communications and Company Limited Partnership, which is affiliated with TerreStar Networks Inc. ("TMI/TerreStar"), to examine the filings and other evidence related to this proceeding, and to conduct an economic analysis of the Commission's current policies and the proposals of the parties. This study cannot be completed in time for submission during the comment period and will be submitted at a later date. In this statement, I will explain the economic principles that are key in considering this matter. At this point in my analysis, I have identified three economic principles that are at issue: the method of defining a market, the determinants of the optimal

number of competitors in a market, and the possibility that regulatory proceedings may be used to impede competition.

Analysis of the effects of the number of competitors in a market requires an appropriate definition of the "market." A market, for purposes of economic analysis, is a collection of goods and services that consumers regard as reasonable substitutes.[1] Consumers often substitute between services provided over different frequency bands or in different regulatory classifications. For example, customers may substitute between cellular telephone services, personal communications services (PCS), and specialized mobile radio (SMR) services, and the FCC and the Department of Justice Antitrust Division have defined a market - mobile wireless telephone services - that comprises all three services.[2] Thus, in general, neither frequency bands nor other regulatory classifications are markets.

Several services that might belong in the market with the services to be provided by the 2 GHz MSS licensees, TMI/TerreStar and ICO Global Communications (Holdings) Limited ("ICO"), are identified in the record in this proceeding. TMI/TerreStar plans to provide mobile satellite services (MSS) with an ancillary terrestrial component (ATC) using spectrum in the 2 GHz range. TMI/TerreStar intends that its MSS/ATC service will compete with MSS providers, such as Globalstar, MSV,

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[1] Antitrust economists typically define markets in the manner set forth in the Department of Justice and Federal Trade Commission, *Horizontal Merger Guidelines* (April 2, 1992). These Guidelines state that a market is "a product or group of products and a geographic area in which it is produced or sold such that a hypothetical profit-maximizing firm, not subject to price regulation, that was the only present and future producer or seller of those products in that area likely would impose at least a 'small but significant and nontransitory' increase in price, assuming the terms of sale of all other products are held constant." (§1.0) A properly defined market has both a product and a geographic dimension. The product or products included is called a product market; the area is called a geographic market.

[2] In the Matter of Applications of Western Wireless Corporation and ALLTEL Corporation For Consent to Transfer Control of Licenses and Authorizations; File Nos. 0002016468, et al., WT Docket No. 05-50, Memorandum Opinion and Order, Adopted July 11, 2005, ¶ 38; United States of America, v. Alltel Corporation and Western Wireless Corporation, Case Number 1:05CV01345, Competitive Impact Statement, July 6, 2005.

ORBCOMM, and Inmarsat, that use other frequency bands.[3] There is also evidence that MSS/ATC service will compete with terrestrial-only networks providing mobile communications and broadband services.[4] This evidence includes the statements of some opposing commenters.[5]

The record indicates that with the "next-generation" 2 GHz MSS services, a market may be created that will not distinguish between hybrid and terrestrial-only services. TMI/TerreStar states that it plans to offer transparent, competitively priced wireless services that give consumers real choice.[6] The inclusion of MSS/ATC satellite networks in the market definition would be consistent with the FCC's recent finding that terrestrial-only mobile telephony services were in a market that excluded satellite carriers, because the satellite services considered by the Commission in that decision were the higher-priced offerings available today.[7] Even if current satellite services do not compete with terrestrial-only carriers, TMI/TerreStar's and ICO's future MSS/ATC services might compete with those carriers. Further, even if terrestrial-only services constitute a market without satellite carriers, this does not mean that satellite services necessarily constitute a market without terrestrial-only carriers.

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3 See "Comments of TMI Communications and Company Limited Partnership and Terrestar Networks Inc.," July 29, 2005, p. 18; "Declaration of Peter Cowhey," April 14, 2005, pp. 2-3; and "Comments of ICO Satellite Services G.P.," July 29, 2005, p. 11.

4 TMI/TerreStar states that it will create "a competitive and affordable alternative for consumers of terrestrial wireless services." "Comments of TMI," op. cit. p. 18. Note also that TMI/TerreStar is designing its system so its handset will be "very similar in size and features" to the consumer handsets used with the terrestrial-only networks. "Comments of TMI," op. cit., p. 10. Moreover, one commentor writes, "In this case satellite ATC systems with sufficient spectrum yield a service that is interchangeable with terrestrial services." "Supplemental Declaration of Peter Cowhey," attached to "Comments of TMI," July 29, 2005, p. 3. See also the letter of Olivier Blanchard of Alcatel to Marlene H. Dortch, July 29, 2005.

5 Intel states that the ICO and TMI/TerreStar systems would compete with other MSS providers and terrestrial-only wireless carriers. "Reply Comments of Intel Corporation," July 25, 2005, p. 12. Inmarsat's contention that the original business plans of ICO, TMI/TerreStar, and the other firms that received spectrum for providing MSS in the 2GHz range were undermined by the growth of PCS and cellular services also suggests competition would exist between such services and those of ICO and TMI/TerreStar. "Comments of Inmarsat Ventures Limited," July 13, 2005, p. 4.

6 See "Supplemental Declaration of Peter Cowhey," op. cit., p. 2.

7 In the Matter of Applications of Western Wireless Corporation and ALLTEL Corporation, op. cit., ¶ 38; In the Matter of Applications of Nextel Communications, Inc. and Sprint Corporation For Consent to Transfer Control of Licenses and Authorizations, File Nos. 0002031766, *et al.,* WT Docket No. 05-63, Memorandum Opinion and Order, Adopted August 3, 2005, ¶ 58.

In a soundly defined market, the optimal number of competitors is determined by a tradeoff between economies of scale and other cost savings or product improvements that might result from larger firm size and the effects of the number of sellers on price and non-price competition. It is important to remember that the strength of competition in a particular market may not depend only on the number of competitors. It is necessary to examine the characteristics and behavior of firms in the market. Two strong firms in some markets may compete more effectively than three weaker ones.[8] Reliance on a rule of thumb or presumption calling for a minimum number of licensees in a given band would be misguided not only because, as noted above, a band is not necessarily a market, but also because such a presumption might lead to the needless sacrifice of important efficiencies and thus reduce competition and consumer welfare.

The record in this proceeding refers to a number of efficiencies that TMI/TerreStar could realize if it acquires the additional spectrum. It may use spectrum more efficiently; TMI/TerreStar states that with a 50% increase in the amount of spectrum, it can double its number of users.[9] The increase in the number of users will enable the 2 GHz MSS firms to significantly reduce their unit cost of customer handsets.[10] Moreover, several filings suggest that the additional spectrum will allow TMI/TerreStar and ICO to include broadband services in their product offerings.[11] Boeing suggests that "MSS networks require at least 8 megahertz of spectrum in each direction in order to

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8 The point that there may be more effective competition with fewer competitors is often made in merger proceedings, where it may be argued that combining two firms into one may result in a stronger competitor and more competition. A very recent example is Commissioner Abernathy's opinion that allowing the merger of Nextel and Sprint will create a "a stronger and more robust competitor." "Statement of Commissioner Kathleen Q. Abernathy," In the Matter of Applications of Nextel Communications, Inc. and Sprint Corporation, op. cit.

9 "Comments of TMI," op. cit. p. 11.

10 "Comments of TMI," op. cit. p. 19 and "Technical Appendix," Exhibit 1; also "Declaration of Peter Cowhey," op. cit.

11 "Comments of TMI," op. cit., p. 12; "Comments of ICO," op. cit., p. 3; "Comments of the Satellite Industry Association," July 29, 2005, pp. 1-2; Letter from Nils Rydbeck to Marlene H. Dortch, July 11, 2005; Letter from Dale Branlund of BRN Phoenix to Marlene H. Dortch, July 11, 2005. See also "Comments of Hughes Network Systems," July 29, 2005, p. 7, which states that "2 GHz MSS systems will need more spectrum resources, not less, especially to accommodate the growing demand for ubiquitous anywhere-anytime voice services, universal broadband access, higher data rates, and increased bandwidth requirements."

provide viable and competitive services."[12] If that is correct, then the amount of spectrum available for MSS in the 2 GHz frequency band is not enough to support three viable competitors.[13]

Some commentors wrongly claim that the Commission should require TMI/TerreStar to provide evidence of demand prior to receiving the requested spectrum.[14] The FCC has decided to allocate 2 GHz spectrum through the regulatory process rather than rely on market mechanisms. In this context, it would be unreasonable for the Commission to require applicants to forecast demand, especially when demand is dependent in part on price, and price is determined jointly by supply and demand, with the Commission making decisions about supply. Cellular and PCS services are prime examples of the futility of predicting demand because new services do not provide a reliable basis for prediction. None of the predictions in the early days of those services was remotely reliable.[15]

In resolving this proceeding, the Commission must be wary about taking action that will lead to increased costs to 2 GHz MSS providers, thereby decreasing competition for other mobile wireless services. The Commission's, and the Nation's, policies favoring competition in telecommunications services remain in fundamental tension with the persistence of regulation. Much of that tension arises from the possibility that competitors may utilize the Commission's procedures to restrict competition and to raise their rivals' costs, a well known and unfortunate side effect of regulation that I have explored in two

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12 "Comments of Boeing," op. cit., p. 3.

13 Including the current allocations of ICO and TMI/TerreStar, there currently is 20 MHz of spectrum available in each direction for MSS in the 2 GHz range.

14 See "Comments of CTIA – The Wireless Association," July 29, 2005, pp. 3-7.

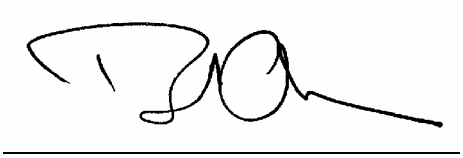
15 See, e.g. Daniel Brenner, *The 2005 Communications Act of Unintended Consequences*, 57 Fed. Comm. L.J. 175, 179 (2005) (noting that "communications policy is particularly susceptible to the law of unintended consequences. Just when you think you can accurately forecast what adjustments to market forces government can best make to improve policy, technology overwhelms the assumptions and recasts the playing field"); Commissioner Kevin J. Martin, Wireless and Broadband: Trends and Challenges, Address Before the Dow Lohnes-Comm Daily Speaker Series (Oct. 15, 2004), *in* 2004 FCC LEXIS 5871 (noting that wireless was initially a niche car phone service that subsequently grew from 16 to 161 million subscribers).

books, *The Regulation Game: Strategic Use of the Administrative Process* (with R. Braeutigam, 1978) and *The Political Economy of Deregulation* (with R. Noll, 1983).[16]

The use of a full-blown regulatory proceeding to allocate this spectrum could weaken the ability of the 2 GHz MSS licensees to compete and impose serious delays in the introduction of services, and consumers would likely bear most of this burden in foregone services and possibly in higher prices. TMI/TerreStar and ICO both point out that reallocating the spectrum at issue through a new processing round would impose serious costs on them and cause long delays before the spectrum is useable.[17] Consumer welfare should not be sacrificed unduly to procedural regularity.

The foregoing is an overview of the economic principles that I intend to address in greater detail in my forthcoming report.

Signed:



Bruce M. Owen

August 12, 2005

16 Another source of that tension is the likelihood that particular regulatory policies will differ from the result that would be produced by competition.

17 As noted previously, were TMI/TerreStar and ICO not to receive the spectrum, they might forego substantial efficiencies. Moreover, if they had to engage in a complicated regulatory proceeding to gain the spectrum, they could incur significant costs and experience long delays. Delays reduce the discounted expected value of future returns, reducing the likelihood that investment funds will be forthcoming. The uncertainty associated with such proceedings increases investor risk, with the same effect. Consumers might also suffer long delays in receiving services over the spectrum. ICO estimates that the time required to award the spectrum in a new processing round and then have the licensee start service would be "at least five or six years." "Comments of ICO," op. cit., pp. 13-4. Also, TMI/TerreStar notes that the reduction in available spectrum and uncertainty involved in a new processing round could imperil financing for both TMI/TerreStar and ICO. "Comments of TMI," op. cit., pp. 21-2. Similarly, Boeing states that "MSS providers need the Commission's continued confidence and backing" to get the necessary financing. "Comments of Boeing," op. cit., p. 2.

Appendix 1

Bruce M. Owen

Curriculum Vitae

# CURRICULUM VITÆ

## Bruce M. Owen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| BACKGROUND | Born 1943, Worcester, Massachusetts • Attended public schools in Millbury, Massachusetts • Married 1965 to the former Josetta Knopf • Two children: Peter 1969 and Bradford 1974. |
| EDUCATION | B.A. Williams College 1965.<br>Ph.D. Stanford University 1970. |
| PRESENT POSITION | Morris M. Doyle Centennial Professor in Public Policy in the School of Humanities and Sciences and Director, Public Policy Program, 2005-; Gordon Cain Senior Fellow in the Stanford Institute for Economic Policy Research and, by courtesy, Professor of Economics, Stanford University 2003-; special consultant, Economists Incorporated 2003-. |
| PREVIOUS EXPERIENCE | Co-founder and CEO, Economists Incorporated 1981-2002 • Visiting professor of economics, Stanford in Washington, 1989-2002 • Chief economist, Antitrust Division, United States Department of Justice 1979-1981 • Associate professor of business and law, Duke University 1978-1980, adjunct professor of public policy, Duke University 1981-88 • Assistant professor of economics Stanford University 1973-1978 • Chief economist, White House Office of Telecommunications Policy 1971-1972. |
| MEMBERSHIPS AFFILIATIONS | American Economic Association • Econometric Society • American Law and Economics Association • American Bar Association (Associate). |
| FELLOWSHIPS | Merit Scholar 1961-65; Woodrow Wilson Fellow 1966; National Defense Education Act Title IV Fellow 1966-69 Brookings Institution Economic Policy Fellow 1970-1971; Hoover Institution National Fellow 1974-1975; Aspen Institute for Humanistic Studies Fellow and chairman, Task Force on the Future of the Postal Service 1978-79 |

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| RECENT PROFESSIONAL ACTIVITIES | Taught undergraduate seminar on economic analysis of law, Stanford in Washington, 1989-2002 • Editorial Board, *Journal of Media Economics*, 1990-2004 • Invited lectures, Fordham Univ. Business School, Yale Univ. School of Management, 2000 • Referee, *Journal of Industrial Economics*, 2001-02 • Referee, *Review of Economics and Statistics*, 2001 • Invited paper, AEI-Brookings Jt. Center Conference on Broadband, October 2001 • Panelist, Conference on Digital TV, American Enterprise Institute, October 2001 • Panelist, FCC Roundtable on Media Ownership Policies, October 2001 • Invited panelist, antitrust in the sports industry, Antitrust Division, USDOJ 2002 • Presenter, World Bank Conference on Legal and Judicial Reform in Ecuador, Quito, 2003 • Invited presenter, FCC en banc hearing on media ownership, Richmond, 2003 • Invited paper, Conference on Net Neutrality, Progress and Freedom Foundation, Washington, 2003 • Referee, *Science* Magazine 2004. |
| CURRENT PROJECTS | *Mass Media Power*. Book manuscript.<br>Intellectual property rights: paper in process.<br>ABA handbook on antitrust: chapter on international enforcement issues. |

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## BOOKS

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An Economic Analysis of the Prime Time Access Rule, March 7, 1995, and A Supplementary Analysis of the Prime Time Access Rule, May 26, 1995. (with others)

Cable Rate Regulation—A Multi-Stage Benchmark Approach, January 1993. (with others)

Competition Policy and Consumer Protection in Argentina, Report of the Advisory Team to the Government of Argentina, July 1992. (with others)

An Economic Analysis of the Effect of the Exxon Valdez Oil Spill on Alaskan Seafood Prices, Report to the Trans-Alaska Pipeline Liability Fund, December 1991. (with others)

Competition Policy in Jamaica, Report of the Advisory Team to the Government of Jamaica, January 1991. (with R. Skitol and R. Crandall)

Federal Antitrust Policy and the Incentive to Undertake Research and Development in the Information Technologies, prepared for the Office of Technology Assessment, U.S. Congress. Economists Incorporated Research Report, 1989. (with M. Spence and P. Greenhalgh)

Economic Effects of the Financial Interest and Syndication Rule. Economists Incorporated Research Report, 1983. (with R. Crandall and R. Noll)

A Framework for Economic Analysis of Electronic Media Concentration Issues. Economists Incorporated Research Report, 1982. (with K. Baseman)

Notes on the Merger Guidelines: Economic Perspectives, Economists Incorporated Research Report, 1982. (with P. Greenhalgh and W. Myslinski)

Five Propositions on the Social Effects of Television, prepared for the Sloan Foundation, Duke University, 1979.

Policy Options in Mobile Radio Spectrum Management, prepared under contract with the UHF Task Force of the FCC, Stanford University, 1978. (with D. Dunn)

Licensing of Real Estate Brokers as Underwritten Title Insurance Agents, Report to the State of California, Studies in Industry Economics #64, Stanford Univ., 1976. (with J. Grundfest)

## TESTIMONY

### Access to Video Programming
Report filed with FCC on behalf of Cablevision regarding DBS operator access to programming owned by cable operators. (2001).

### Airline Reporting Corporation
Affidavit and oral testimony on behalf of ARC on effects of information reporting in arbitration involving travel agents (1991).

### Airline Reporting Corporation
Deposition testimony and report on behalf of defendant ARC in Sherman Act suit (1996).

### Alpha Lyracom v. Comsat Corporation
Deposition testimony and report on behalf of plaintiff PanAmSat in Sherman Act §2 case (1994).

### Alpo v. Ralston Purina
Testimony on behalf of Alpo on damages-related issues in Lanham Act case involving puppy food (1988).

### Brink's Incorporated
Testimony on behalf of Brink's before the ICC on competition issues in armored car company merger (1989).

### Buena Vista Television v. Fox Broadcasting, et al.
Testimony on behalf of defendant Fox regarding markets for children's programming and advertising in Sherman Act case (1991).

### Buffalo Broadcasting v. ASCAP and BMI
Testimony on behalf of defendant BMI regarding economic effects of blanket licensing of music performing rights to television stations in Sherman Act case (1981).

### C&P Telephone v. United States
Affidavit on behalf of NCTA in constitutional challenge to statute restructuring telephone company provision of video services (1993).

### Calif. v. San Diego Board of Realtors
Testimony on behalf of plaintiff California Attorney General regarding price fixing activities of real estate brokers. San Diego Superior Court (1978).

### Cable Television
Written reports on cable rate regulation and other matters on behalf of NCTA before the FCC (1993-98).

### Cellular Radio
Testimony on behalf of McCaw Communications in FCC, district court and CPUC proceedings involving cellular radio and telephone service (1985-86).

### Cellular Radio
Written reports on behalf of McCaw Communications in FCC proceedings on interconnection and rate regulation issues (1994).

### Cellular Radio
Written reports on behalf of non-wireline cellular radio applicant before the FCC (1982-83).

### Citric Acid Litigation
Deposition testimony and report on behalf of defendant Cargill in Sherman Act litigation (1997).

### CMRS services
Written reports on behalf of AT&T Wireless Services before the FCC regarding interconnection issues (1995-96) and spectrum caps (1999).

### Communications Reform
Invited oral testimony regarding cable television copyright issues. U.S. House of Rep., Hearings, Comm's Act of 1979 (H.R. 3333).

### Communications Reform
Written testimony on communication legislation on behalf of Southern Pacific Comm's Co. U.S. House of Rep., Hearings, Comm's Act of 1978 (H.R. 13015).

### Credit Card Foreign Exchange Fees
Deposition on behalf of defendant banks on Sherman Act §1 issues. (2005).

### Dividend Tire v. Goodyear
Deposition on behalf of defendant Goodyear on market issues in dealer termination Sherman Act case in the tire industry (1985).

### EchoStar v. Viacom
Deposition and affidavits on behalf of defendant Viacom on motion for TRO in Sherman 1 tying case involving satellite broadcast rights (2004).

### FCC v. WNCN Listeners Guild (Formats case)
Written testimony on behalf of the National Assoc. of Broadcasters regarding radio station formats (1977).

### Federal Trade Commission v. Beltone
Testimony on behalf of FTC complaint counsel regarding effects of exclusive dealing practices in hearing aid industry (1975).

### Fin Syn Rules
Reports and FCC submissions on behalf of Capital Cities/ABC, CBS and NBC regarding effects of FCC financial interest and syndication rules (1993).

### Hachette v. Hudson County News, et al.
Damages deposition testimony on behalf of plaintiff Hachette in Sherman Act matter involving periodical distribution (1993).

### Hampton Roads Title v. Lawyers Title
Deposition regarding economic effects of "controlled business" in title insurance industry on behalf of defendant Lawyers Title Insurance Co. (1981).

### Hicks Broadcasting
Deposition in BMI Rate Court proceeding regarding reasonable rates for music licenses (2002).

### International Communication Services
Reports and FCC submissions on behalf of PanAmSat regarding competition in international satellite services (1998-99).

### Irvin Industries v. Goodyear Aerospace
Deposition testimony on behalf of defendant Goodyear in Sherman Act case regarding alleged predatory pricing of air-inflatable bomb retarders (1990).

### Kesmai Corporation v. America Online
Deposition testimony and report on behalf of defendant America Online in Sherman Act case involving online services U.S. Dist. Court E.D. VA. (1998).

### Lawyers Title Insurance Corp.
Testimony on behalf of Lawyers Title Insurance Corp. regarding economic effects of "controlled business." Michigan Ins. Bureau (1982).

### Albert Lewis et al. v. NFL, et al.
Declaration on class certification issues on behalf of defendant NFL in antitrust lawsuit involving player reservation system (1992).

### James K. Lewis et al. v. Philip Morris
Testimony on behalf of defendant Philip Morris in Robinson Patman case involving cigarette vending machines (1999, 2000).

### Magazines
Written testimony on behalf of CBS Inc. regarding competition issues in the magazine and related industries (1987).

### May Department Stores v. First National Supermarkets
Damages deposition in Sherman Act lawsuit involving trading stamps and Cleveland department stores (1988).

### Media Concentration
Testimony on behalf of Viacom, NBC and Fox regarding media ownership rules. FCC 02-277 Commission en banc hearing; California Senate Committee on Banking Commerce and International Trade (2003).

### Music Royalties
Testimony on behalf of BMI before the Copyright Royalty Arbitration Panel of the U.S. Copyright Office regarding music license fees for public broadcasting (1998).

### Freeman McNeil, et al. v. National Football League
Damages testimony on behalf of defendant NFL in Sherman Act case involving player reservation system (1992).

### Postal Rates
Testimony on behalf of the United States Department of Justice in the E-COM rate proceeding before the Postal Rate Commission (1983).

### Railroad Deregulation
Written testimony in the DC Circuit on behalf of Sea-Land regarding deregulation of boxcar freight services (1983).

### Sacramento Union v. McClatchy
Testimony on behalf of private antitrust plaintiff in U.S. district court, N.D. Cal., in a TRO hearing involving the newspaper industry (1978).

### St. Louis Convention and Visitors Bureau vs. National Football League
Affidavit on behalf of NFL in Sherman Act litigation, U.S. Dist. Court E.D. MO. (1997).

### Satellite Home Viewer Act
Testimony on behalf of ABC, CBS, and NBC in compulsory license royalty proceeding, U.S. Copyright Office (1997).

### Small Package Express
Testimony on behalf of Federal Express regarding competitive issues in U.S. to Japan small package express route award U.S. Dept. of Trans. (1986).

### Southern Pacific v. AT&T
Testimony on behalf of plaintiff SPCC regarding market definition and market power issues in Sherman Act case in the telephone industry (1982).

### Telectron v. Overhead Door
Deposition on damages on behalf of defendant Overhead Door in Sherman Act case involving garage door openers (1987).

### Teleconnect v. U S WEST, et al.
Deposition testimony relating to telephone industry (1991).

### Telephone Access Rates
CPUC testimony relating to access pricing on behalf of MCI (1983).

### Television Regulation
Reports and FCC submissions on behalf of CBS in the financial interest proceeding (1983), the seven station rule proceeding (1984) and the CBS/Turner proceeding (1985).

### Television Regulation
Reports and FCC submissions on behalf of ABC, NBC and CBS on ownership concentration issues (1995).

### TEMPO Application
Reports and FCC submissions on behalf of TEMPO application for transfer of DBS license (1994, 1995).

### United States v. AT&T
Testimony on behalf of the United States regarding relief issues in the telephone Sherman Act litigation (1981).

### United States v. Columbia Pictures (Premiere)
Testimony on behalf of the United States in Sherman Act case regarding effects of movie company joint venture (1980).

### USBA v. Healy
Written testimony on behalf of U.S. Brewers Association regarding economic effects of state beer price affirmation in constitutional challenge to state regulations (1981).

### USFL v. NFL
Testimony on behalf of defendant National Football League regarding damages in a civil antitrust action brought by the United States Football League (1986).

### Qwest

Testimony on behalf of Qwest Communications in connection with its merger with U S WEST, before the Federal Communications Commission (1999).

### United States v. U S WEST

Affidavit on behalf of the United States regarding telephone company provision of video services in lawsuit challenging constitutionality of federal statute, 9th Cir. (1994).

### Utility Merger

FERC and CPUC testimony on behalf of intervenor City of San Diego on competition issues in the proposed merger of Southern California Edison and San Diego Gas & Electric (1989-90).

### Valley Title v. Marquardt

Deposition regarding controlled business in the title insurance industry (1979).

### WAIT Radio v. Century Broadcasting

Deposition testimony on damages in civil fraud case (1989).

### Western Fuels v. Burlington North'n RR

Deposition on market issues in Sherman Act case involving coal transportation, on behalf of plaintiff Western Fuels (1984).

### Yellow Pages

Written testimony on behalf of Donnelley Directory regarding competition issues, Pennsylvania PUC (1987).

### Zap Legislative Courier v. Federal Express

Deposition on economic issues in trademark infringement case on behalf of defendant Federal Express (1987).